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HOW TO LISTEN TO AN ORCHESTRA

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SIR HENRY J. WOOD

HOW TO LISTEN TO AN ORCHESTRA

By

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With Illustrations

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DEDICATED TO

SIR HENRY WOOD

(CONDUCTOR OF QUEEN'S HALL ORCHESTRA, LONDON)

AS A MARK OF ESTEEM FOR THE EXCELLENT WORK

WHICH HE HAS DONE IN BRINGING THE BEST

ORCHESTRAL MUSIC BEFORE THE PUBLIC

PREFACE

THIS little volume is not addressed to professional musicians nor yet to the student of Orchestration. For these there is an ample number of comprehensive text-books, such as those of Berlioz, Corder and Prout, which deal with all the technicalities of what is popularly known as the "Band." But, outside those who make music their calling, the world holds a vast multitude of listeners to music who would never think of reading an academical treatise on "Instrumentation." Indeed the majority of musical amateurs, particularly those who are hearers rather than performers of music, know nothing of the concert platform beyond what they see of it from an auditorium. To them the orchestra, which literally means "dancing-place," is a stage upon which all is *couleur de rose*. Behind the glow of lights, the veneer of evening dress, and the ravishing and often bewildering multitude of sound-voices are hidden human nerves at a high tension bent on extracting from mechanical sources, as from human lungs, an ever-mysterious language of emotions. Those who have played or sung in public can never be indifferent to the instruments which have served them either for display or accompaniment. It is, therefore, not to these who make music, but to those for whom music is made that, in the following pages, we have attempted to introduce, with as little formality as possible, each separate member of the great family of sound-sources which constitute the Orchestra.

At the start, however, it may be asked: Are concert-goers interested enough in the band to desire a more intimate understanding of it? In other words, is the listener content to take the agglomeration of orchestral sounds as he hears it, and not go further to inquire into the nature and distinction of wood, brass and strings? Let us reply by asking another question. What is the attitude of the normal child when he is taken for the first time close to a military band? He is at once in love with the big drum, and probably longs to have a drum of his own. Then the great bombardon or the shrill trumpet fascinates him, and mother or nurse are plied with questions about the men with inflated cheeks who make music from these brazen tubes. Noise and size, we observe, are the primary elements of interest with the boy who is said to be father of the man. It may be also, if he is a thoughtful or naturally musical child, that the less assertive members of the group of instruments—the flute, oboe, or clarinet—will claim his attention. In fact he may want to know the name of each, much to the confusion of his guardian, if he or she, owing to a life-long ignorance, would not willingly deceive the little inquisitor.

What then? With maturer years, do we always lose the laudable curiosity of the little ones who are never satisfied unless they can "see the wheels go round"? We learn, it is true, as we grow older, to get accustomed to things as they are and to take people as we find them. But how much keener our enjoyment of life, how much more secure our relative positions, if we are not satisfied with superficiality in knowledge, but always have a wholesome desire thoroughly to know whatever is worth knowing. There is a great gulf between mere idle inquisitiveness and that spirit of research which finds sermons in stones and good in everything. Beethoven's symphonies will gain added glories when we interest ourselves sufficiently in their construction to become acquainted with the materials which the master had at his disposal in painting his famous sound-pictures. St. Paul once asked, concerning the "things without life, giving sound, whether pipe or harp," how what was piped or harped could be known "except they give a distinction in the sounds"? Evidently the great Apostle assumed that intelligence in listening to music was an essential part of its knowledge and enjoyment. Since his time, wondrous indeed have been the varieties of sounds produced from the stretched string and the vibrating tube. In some combinations of the present day it is difficult to say whether a passage is played on the bassoon or the 'cello (the one a wind, and the other a stringed instrument). Yet the two are as different in appearance and method of tone-production as it is possible to imagine. To distinguish between the complexities of a great deal of modern orchestration may belong alone to the province of the erudite musician. But no little charm is added to the faculty of listening when it is possible, at least, to tell the plaintive voice of the oboe from that of the mournful and mysterious horn, and to follow with intelligence certain well-known groupings of strings and wind.

Coming to personal experience, the writer has seldom attended an orchestral concert in the company of an interested listener without being asked, more than once, what was the name of such and such an instrument. Or, if a pleasing melody is given, say, to the clarinets, the remark generally is: "How like a human voice! Which instrument is that?"

Leaving, then, the compass and statistic details of orchestral instruments to theorists, the pleasing task we have undertaken to fulfil is as follows: In an opening chapter we give a bird's-eye view of the orchestra as it appears to the casual spectator in the audience, with such information as may be necessary for a distinct location of the various members, or groups, of the band. Then we will proceed to introduce to the reader every individual of the great families of sounding pipes, strings and membranes, giving to each a pedigree, and disclosing the story of all as far as may be of real interest to the occasional concert-goer.

We venture to hope that a closer familiarity with the fraternity of sounding instruments will be very far from breeding contempt of them. There is always a fascination in becoming acquainted with a circle of active agents, each of which has something definite to say as an individual. Thus we will learn from the flute of an antiquity which dates back to hoary Egypt or even to the very beginning of things on this globe. The violin will furnish us with a romance that is unrivalled in the chronicle of inanimate material. Even from the cymbals we will know of that mystic sense of rhythm which is coëval with humanity itself, and which links the orderly progress of our own day with the first measured tread of the antediluvian. From all these matters we might perhaps extract a philosophy of life which, like the fabled music of the spheres, may suggest the hidden links that ever bind things physical and spiritual. For be it remembered always that, since sound is the product of vibration, the gamut of tones is really a segment in that great spectrum of movement which constitutes the essence of Being, or Existence. From sound we can run up the ladder whose successive rungs are heat, light, electricity, and, possibly, life temporal and eternal. The separate instruments of the orchestra, indeed, may be fancifully looked upon as sentient beings like ourselves, each with a story to tell, or a peculiar emotion or set of emotions of which to take account. This being granted, we proceed to let the members of the band speak for themselves, feeling sure that the narrative will not lack interest and, it is hoped also, entertainment for those who have ears to hear.

To these prefatory remarks we would like to add our grateful acknowledgments to the several eminent musicians who have permitted us to use portraits illustrative of the text: namely, Sir Henry J. Wood (to whom this book is respectfully dedicated); Sir Frederick Bridge (for his interesting portrait taken at Westminster organ); Dr. Lieut. J. Mackenzie Rogan (for group of the Coldstream Guards); and Madame Alice Barnby (harpist to the Carl Rosa Opera Company). Also we are much indebted to the courtesy of Messrs. Augener & Co. (music publishers, Great Marlborough Street, London, W.) for use of several valuable illustrations of orchestral instruments which are taken from Prout's standard work on "The Orchestra" issued by their firm; and to Messrs. Boosey & Co. (the eminent music publishers and instrument manufacturers, 295, Regent Street, London, W.), from whose attractive catalogues we have had permission to reprint some models illustrative of the most recent developments of Brass-band instruments. Messrs. Cassell & Co. also have kindly given permission for the use of several illustrations from their edition of Naumann's "History of Music," and we have been fortunate in obtaining a portrait of the famous Brass Band of the "Besses o' th' Barn."

ANNIE W. PATTERSON,

CORK,
January, 1913.

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HOW TO LISTEN TO AN ORCHESTRA

CHAPTER I

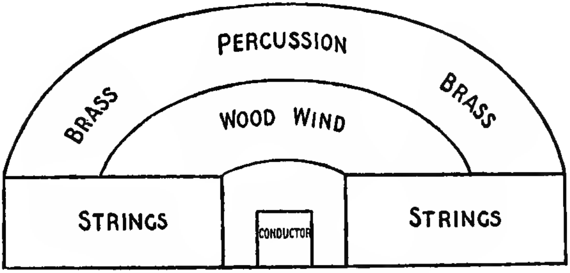
WHAT WE SEE FROM THE AUDIENCE

Enter, the "Strings"—First and second Violins—Tenor and bass strings—"Tuning up"—The "Wind" group—The "Wood"-wind—The double Reeds—The Clarinet—The "Brass"—Percussion instruments—The Time-beater—The art of Conducting—"Placing" the band—Organ and Harp.

WE will imagine ourselves in a brilliantly lighted concert-hall. In front of us stretches an ample platform upon which are ranged chairs and music-stands, usually in semi-circular fashion. Right in the centre is a small raised daïs, upon which stands the conductor's desk. It is of more or less ornate description, from the most elaborate of brazen lecterns to the simplest of metal or wooden supports, the aim of the structure being to hold music volumes, or, as the orchestral script is called, the "full score." So far for the furniture of the orchestra, of which we will have a full view if we arrive some little time previous to the commencement of a performance.

Enter, the "Strings."—Shortly before the stated time for the concert to begin, there are indications of a stir at the side-doors of the stage, and an usher probably enters to arrange sheet-music on the stands. "The Band is coming!" some one whispers at our side, and we watch the entrances with expectancy. Presently appear the "Strings," each player carrying in his hands, often almost as if he were caressing it, the curiously-shaped but familiar Violin, still colloquially spoken of by its more ancient name of Fiddle. Careful observation will show us that violins are not all of the same size. The violin proper is about the length of the lower arm of normal size, from finger-tip to elbow. A moment's glance will show that it can be easily held with the nut, or head, resting in the left hand, whilst the further rim of the curved body reposes on the left shoulder.

First and Second Violins.—Just as there are what we familiarly call "first" and "second" voices (the soprano and contralto), so there are violins first and second which share between them, in composition, the main upper harmonies. In size there is no material difference between these treble violins. As a general rule, however, the best players are relegated to play "first fiddle," the lion's share of a score, or orchestral piece, falling to that instrument. The principal first-violinist is also called the Leader. In theatres, particularly, this leader often actually conducts as well as plays, and it is not unusual to see an artist of this type frequently take his bow from the strings in order to beat the time for a series of bars. First and second violins, with



Rough Plan of Orchestra.

their leaders well forward, will be seen to take their seats, as a rule, on the right and left-hand sides of the conductor's desk. Sometimes they are ranged in concentric circles around the "chief."

Tenor and Bass Strings.—Usually behind the violins, which range from some half-dozen to twenty or more in number, will be found a limited group of viola players. The Viola, or tenor violin, is slightly larger than the violin. Its tone is not so brilliant, and, as its compass, or range, is at a lower pitch, it supplies the tenor harmonies in what is called the "quartet" of the strings. There are less violas in an orchestra than violins, for reasons which will be explained later. Located conveniently on the outer circle of the confraternity of Strings come, first, the Violoncellos—or, as they are called for short, the 'Cellos—and the great bass-fiddle, the Double-bass. These instruments and their players will be easily recognised on the platform. The 'cello looks like a large-sized violin, and it is leant on the ground supported by the knee of the performer. The gigantic Basso can scarcely escape notice. So large is the instrument that the manipulator has to stand while he wields his big bow. Following out the simile implied by the term "Family of Strings," we might name the double-bass and the violoncello respectively the father and mother of the smaller-sized instruments, the viola and violin. The entire group is not only of peculiar interest in the orchestra, but it also constitutes the groundwork of orchestral harmonies, the strings being seldom silent, and not so liable to pall in combination upon the ear, as is the case with many of the wind instruments.

"Tuning up."—Once the "strings" have taken their place on the platform, they usually make their presence not only seen but heard by the "tuning up." A certain instrument of fixed pitch, generally the oboe, gives the note "A" (second space on treble stave). To this the other instruments "tune," or adjust themselves. The tuning up, so familiar to the ear of the professional musician as often to be beneath his notice, has a certain charm of its own for the casual listener. The one strongly reiterated note, around which the instruments seem to be playing all sorts of capers, the general awakening to life and sound, the intense aural animation of the scene—the briskly moving bows and the active fingers as strings are attacked, twitched, or screwed up to pitch—arouse an impression and excitement purely their own. It is said that a well-known Shah of Persia once remarked, after hearing an orchestral performance for the first time, that he enjoyed the tuning up best of all! Many are still to be found amongst modern audiences who might be of the same opinion.

The "Wind" Group.—Whilst the Strings are making merry with the agile bow preparatory to getting into perfect accord with each other, we may look beyond their heads for the next great group of instruments, that known as the "Wind." The term itself needs a few words of explanation. All of this "Family"—whether of wood or brass—depend, for their sounds, upon the vibration of air caused by blowing or urging the breath into hollow tubes of various shapes and lengths. The ground principle is that of the sounding organ-pipe, which has its prototype in the primitive shepherd's reed and its humblest relative in the penny whistle. Analogy also exists between the human voice and all breath-blown instruments, resonance chambers being supplied, when one sings, by the cavities of the mouth, nose and throat. The "vibrating column of air" is, indeed, one of the most remarkable means of sound production in the world. The mysterious music of the wind, when regulated by scientific emission, is capable of the most extraordinary variety and difference in power of sound, as we shall presently see.

The "Wood"-Wind.—Behind the Strings, and sitting as close to each other as is feasible to the front or right and left sides of the conductor, are the four chief kinds of Wood-Wind instruments. They are, in their order of score-tablature, the Flute, Oboe, Clarinet (or Clarionet) and Bassoon. There are usually two players of each kind of instrument, whilst, in large orchestras, as many as three flutes especially may be found with the higher treble instrument of the flute species, the Piccolo. The appearance of the flute is easily distinguishable. It is a long tube held transversely when played, and close observation will show one side pierced with holes which are open or stopped, as required, by curious little protuberances of German silver or other metal. The voice of the flute is readily recognised in the tuning-up medley of sound by its clear liquid tones and general bird-like quality of trilling and running over scale and arpeggio passages with rapidity.

The Double Reeds.—Next to the Flute comes the Oboe, which possesses a plaintive voice of what may be described as a strident timbre, or colour. In shape it is not unlike the flute, save that it is slightly conical and expands towards the bass, and that it is held, not crosswise, but in an upright position when in use. It is known as a "double-reed," from the fact that two slender pieces of cane, fastened against each other in such a way that air can pass between them, are inserted in the mouthpiece. Not far from the oboe players will be seen the bassoonists. The Bassoon is, in reality, a bass oboe, and it fills in the lower harmonies of the wood-wind. It is, to look at, a large-sized tube with metallic bands and mechanisms for hole-stopping, having, in addition, a brass crook attached to one side which connects the double reed with the performer's mouth. Other varieties of oboe and bassoon are the Cor Anglais and the Double-bassoon respectively ; but we need not concern ourselves with these at present.

The Clarinet.—Not unlike the oboe in form, but dissimilar from it in being played with a single reed (which, in this case, takes the shape of a broad strip of cane, narrowed, at upper part, to a very fine edge) comes the Clarionet, now most frequently written as pronounced, clarinet. In spite of the euphony of the former and older name, we will, therefore, adopt that of Clarinet, especially as the late Professor Prout, in his great treatise on "The Orchestra," emphatically protests against associating the sound of this delicious and tender-toned instrument with the loudness of the clarion, or trumpet. The clarinet is, indeed, a great favourite with musicians, and it has been described as the "female voice" of the band. It is the most capable, of all the wood-wind instruments, of *expression.* Near relatives of the clarinet are the Basset-horn and the Bass-clarinet. These two are not, however, always found in orchestras. They are curious in shape, having a species of inverted bell at the bass and a curved mouthpiece not unlike a serpent's neck and head.

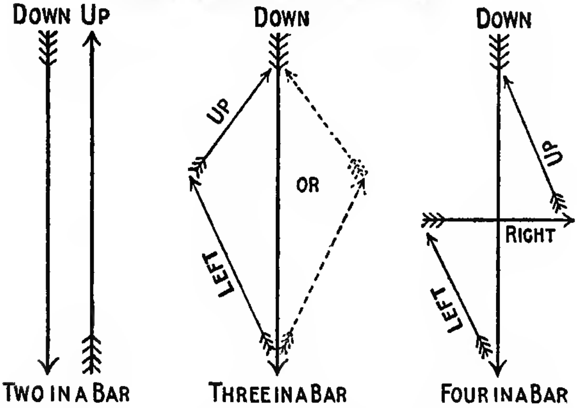
The "Brass."—As we are merely now considering the orchestral platform in a kind of bird's-eye prospective, we will, for the present, turn from the "wood" to contemplate the "brass." Here, as the name implies, we have to deal with brazen tubes, more or less convoluted, as in the case of trumpet and horn. The Horn, with its circular curves and wide, gracefully-shaped bell, reminds one at once of a convolvulus or a gigantic snail! Its dreamy and sonorous voice possesses a peculiar charm, and it is the most mellow-sounding of the brass family. The smaller and shriller Trumpet, with its oblong curves and straight bore, terminating at respective ends in bell and mouthpiece, can scarcely be mistaken for its softer-toned companion. On the outskirts of the band come the colossal Trombones, with their great sliding oblong-shaped tubes. Both in voice and appearance they are undoubtedly the most assertive members of the band. Yet they can be played softly with impressive effect, as some composers and players know who have been able to extract the "cream" from their noisy utterances. With the monster Tuba—more often confined, with so-called "Saxhorns" of its class, to the military band—we need not at present trouble the reader.

Percussion Instruments.—So far the Brass Family; a loud-voiced group which, nevertheless, lend a life and colour of their own to the full orchestra. We now turn to another clamorous cluster which differs, in many ways, from all the instruments which we have hitherto been describing. The Percussion Family, as the term suggests, contains all sound sources which make themselves heard from being more or less violently struck, generally with a stick! Evidently they are to be classed as the highly obstreperous members of the community! At the same time, it may seem almost a paradox to remark that it is they, principally, that keep the whole assembly of sound in order, for do they not mainly serve to beat the time and mark the rhythm? The chief percussion instrument is the Kettle-Drum. There are usually two of these copper or brass hemispheres, with "heads" of parchment which can be tightened or loosened by screws at will. The kettle-drum forms the connecting link between what may be termed music and noise. For this instrument, both in its smaller and larger varieties, is capable of being tuned within a certain limit, and thus can give a definite musical note.

The Time-beater.—Kettle-drums, the Bass (or Big) Drum, Triangles and Cymbals are all relegated to the outer circle of the orchestra, the extreme limits of the crowd. Their players need, all the same, to watch the conductor closely. For it is absolutely essential that drummers, and all others engaged in marking strong accents, should come in with accurate precision "on the beat." This brings us to the centre figure of the platform, the last man to enter before a performance. The *Chef*, as he is often named, is usually known by his badge of office, the Baton. This is a stick, more or less ornate, of wood, ivory, or ebony, if not of still more costly metal. In practice, a baton of light wood is not only more clearly perceived and followed by the players, but it is also less fatiguing to wield.

The Art of Conducting.—At first sight nothing appears more easy than to beat time. On ancient Egyptian monuments we see that this duty was committed to women and children! Nowadays the most exact sense of pace and rhythm, the keenest musicianship, and an intimate knowledge of the orchestra even to the extent of practical acquaintance with most of its instruments, go to the equipment of the fully fledged Conductor. Time may be roughly divided into two kinds, Duple and Triple. In Duple, or even time, and its multiple, Quadruple, beats are respectively down, up; and down, right, left (or left-right) up. Where there are three, or a multiple of three beats in a bar, the path of the baton is down, left, up; or down, right, up, as the chef chooses. Note that the "strong" accent in music is always indicated by the "down" beat. A few minutes' careful watching of a good conductor will generally initiate the intelligent onlooker into the ground-principles of time-beating. But to be able to lead the violins, to prepare the oboe or clarinet for an important entry, to bring horns, trumpets, or drums in exactly at the nick of time—and, withal, to keep the entire band welded together so that no group lags behind or steals a march upon another—this is the art of the accomplished conductor. There is

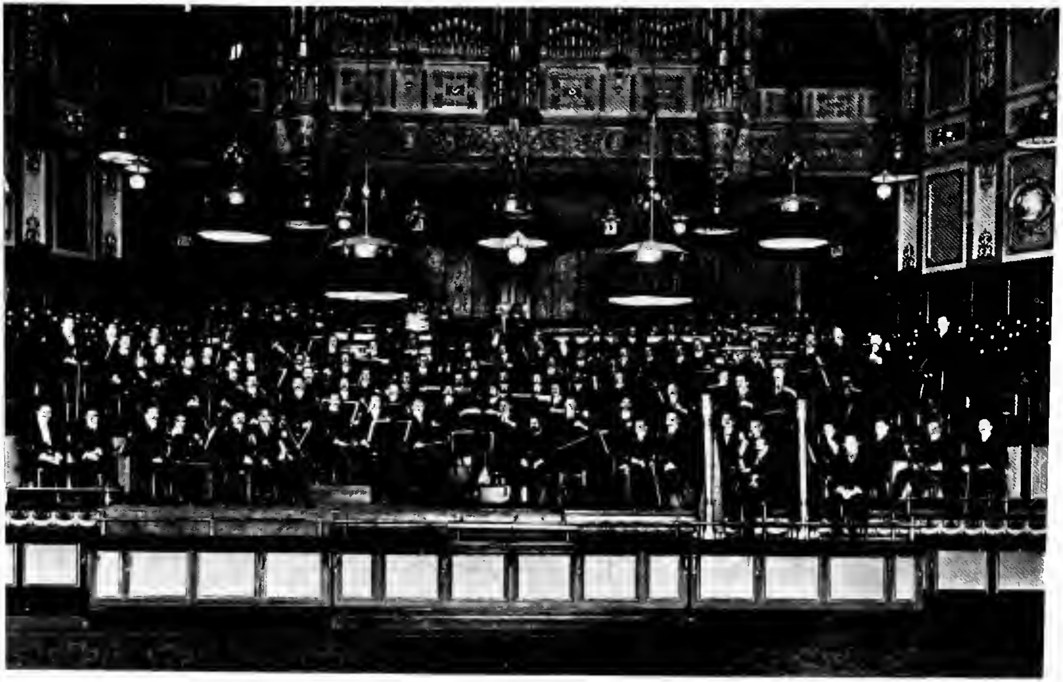
METHODS OF SIMPLE TIME BEATING



DUPLE TIME. TRIPLE TIME. QUADRUPLE TIME.

more, infinitely more than this, too, behind stick-waving. The man who leads, if he lead effectively, must possess *personal magnetism.* Extravagant bodily contortions, the most excited of gestures, will not supply this if it is mentally wanting. It is something in the mind, the brain, the soul of the individual. It shines forth through the eyes and possibly animates the finger-tips. In fact, the signalling of the conductor's eye has often as much to do with the excellence of his leadership as the actual way in which he brandishes his stick.

"Placing" the Band.—Considering him one of the foremost authorities on the matter, the writer lately ventured to ask Sir Henry Wood (of Queen's Hall Orchestra) what was the most approved grouping of orchestral instruments on a concert platform. The reply was: "The arrangement of an orchestra depends upon the acoustical properties of the hall, and it is only by experiment that a satisfactory grouping can be arrived at." Every cultured musician will agree with the distinguished conductor in this pronouncement. His special arrangement of the strings in the Queen's Hall may be noted. Instead of having first and second violins on left and right, as is usual, all the violins are on the left, the violas,



By kind permission of Messrs. Robert Newman & Co.

THE QUEEN'S HALL ORCHESTRA, LONDON.
(Conductor: Sir Henry Wood.)

’cellos and double-basses being placed on the right. Hence the order of seating the band will often be found to vary. General usage, or the “experiment” to which Sir Henry refers, will, however, follow more or less closely the concentric semicircular system which we have endeavoured to indicate. The idea is to have the strings well to the front, the wood-wind and horns somewhat centrally placed and often wedged in between the other treble instruments of the band, whilst the brass and percussion take up their positions on the outskirts of the assemblage, their sonorous tones easily penetrating the massed effects of the other instruments. The main points that concern the average listener are; first, that he should be able to recognise the various kinds of sounding-sources; and, secondly, that, if possible, he may also easily locate their position with the eye.

Organ and Harp.—Occasionally the King of Instruments, the Organ, rises majestically at the back of the platform. All scores do not, however, include organ parts; and, in one sense, the organ is an orchestra in itself. Also, not infrequently in modern compositions, the graceful Harp has telling passages, not difficult of distinction owing to their eminently “liquid” quality of tone. But both harp and organ—being, like the Pianoforte, instruments which can supply full harmony in themselves—are "occasional visitors" rather than regular members of the Full Orchestra. They will be dealt with, nevertheless, in a chapter by themselves. For, when they do make themselves heard, they combine with the band and lend a lustre to it which cannot but impress even the most inexperienced listeners in an audience.

So far the orchestral prospective, as it may any day be recognised at foremost concerts. Sometimes the Chorus, as well as solo singers, occupy the platform at the same time as the Band at the performances of large choral societies. On these occasions the Orchestra is like a wedge inserted between the ranks of singers, who, sopranos and contraltos to the front with tenors and basses behind, fill the flanks. The usual position of all performers—solo singers sitting in front to the right and left sides of the conductor—will most easily be seen when an oratorio, such as Mendelssohn's "Elijah," is given. But at present we are concerned more with inanimate than animate sources of sound. So having considered the Band as a whole, we now proceed to cultivate closer acquaintance with its component parts.

CHAPTER II

THE GENERAL IMPRESSION OF THE SOUND-PICTURE

Music and painting — *Timbre,* or tone-colour — The ground-tint of strings—The "quartet" of strings—Stringed effects—"Harmonics"—Familiar examples —Wood-wind voices—Colours on the sound-canvas —Vibratory analogies of colour and sound—Orchestral colouring in Haydn's "Creation"—Tone-painting and the tone-painter—The unveiling of the sound-picture.

BEFORE, however, we meet each instrument individually, as we have already had a bird's-eye view of the platform, we now require what may be termed a broad impression of the sound or sounds emitted by the full orchestra. In the first case we used our sight; our hearing will now be directed intelligently to what before has been, probably to most of those who read these pages, a merely indiscriminate mass of tones soft and loud.

Music and Painting.—The kindred arts of Music and Painting have often been compared, and the analogy will now be useful to us. When looking at a picture, we take in not only the general details, but the relation or sympathy which these points of interest have with each other. So, in a landscape, whilst we note trees, mountains and rivers, we are also affected by the pleasing contrast of varying greens and browns with the distant purple, the sunlight on the ripples of water, or the deep shadows under some rural bridge. These give to us a feeling of adaptability, fitness and symmetry which the sense of vision conveys to our appreciative brain. So, when listening to a well-known orchestral symphony or overture, not alone do we watch the rising and falling of many bows and the inflating and percussion processes that are going on before us, but our ears discern, with an innate sense of the beauty of contrast and combination, the many lights and shades of the sound-picture, together with those striking melodic scraps which stand out, more or less prominently, from the web of tone-forms. How are these different effects produced? What is the mystery which presents to us the same, and yet not the same passage, seeing that first it appears on the strings and then on the wind?

"Timbre," or Tone-colour.—As the artist possesses a paintbox from which to extract his pigments of diverse hues, so the musical composer has, in the orchestra, tones and tone-masses of varying *timbre*, or colour, by means of which he can bewitch our ears as the painter enchants our eyes. Sometimes an entire group of instruments will play in four to eight-part harmony a phrase, or musical sentence. This will be re-echoed by another group at the same or a different pitch. Then, again, some one instrument will stand out from all the rest and render some delicious and haunting melodic scrap, whilst others are in the subordinate condition of *accompanying* the solo. At another time, two or more solo instruments will give us the effect of a duet, or a trio, and so on. Our first step towards an intelligent and enjoyable listening attitude to orchestral music is, then, a fair knowledge of what may be termed ground-tints on the sound-canvas; so that, when we hear certain combinations, we may not only hear with delight, but with understanding.

The Ground-tint of Strings.—First, and of prime importance in the orchestra, comes the music of the Strings. We have seen that violins are not only more in number than any other instrument, but that they have also a foremost place on the platform. This is as it should be; for they form the groundwork, the backbone, of the entire fabric of sound. We have already referred to the Quartet of Strings. Together with violas, 'cellos and double-basses (the latter usually doubling the notes of the 'cellos in octaves), the violins (divided into firsts and seconds) are capable of sustaining the entire harmony by themselves. The strings, especially the violins, are also the most agile members of the band; they can take rapid and chromatic passages with great brilliancy and effect, and their players do not grow weary with continued exertion, or have to take breath at intervals, as is the case with performers on wind instruments. Moreover, the powers of expression possessed by the stringed section of the band, and the general quality and variety of the tone emitted, especially *en masse*, insure the hearer against that satiety which instruments like the flute or any member of the brass group would soon produce, with incessant repetition, on the ear. Added to these considerations, it is also to be remembered that, from the

Portrait of himself by Gerard Dow.

THE VIOLINIST.

lowest note produced on the double-bass to the highest possible sound on the violin, we have a range, or compass, adequate for the interpretation of well-nigh all kinds of music. The wide adaptability and acceptability, therefore, of the strings render them most fitted not only to form the ground-tints of the sound-picture, but also to furnish its main interest throughout.

The player, with his fiddle, is, indeed, the centre of attraction on a platform. Like Gerard Dow's famous picture of himself as "The Violinist," the man and his instrument suggest an association of things spiritual and material which has scarcely a parallel in the other perhaps less conveniently held instruments in the orchestra.

The "Quartet" of Strings.—The listener should, then, first habituate himself to recognise and distinguish the music played upon the strings, whether alone or in combination with other instruments. This is a pleasing and delightful task, and the hearer will be surprised how soon he will be able to discriminate, even between the sounds of violins and violas, with his eyes shut. Just as we spoke fancifully of the father, mother and children of this great group, so we might now look upon the violins and violas as the first and second treble voices (soprano and contralto), and the 'cellos and basses as the male voices of the instrumental chorus. But with this difference. Whereas the second violins most frequently play the contralto part of the harmony, the violas supply the tenor and the 'cellos the bass, the so-called double-bass being used mainly to strengthen the lower notes of the 'cello, playing usually an octave beneath it.

Stringed Effects.—Habitual frequenters of orchestral concerts are not long in noticing something else distinctive about the Strings which we may as well explain here. The bow is not always used. Now and then either a few players, or the entire string-band, may be seen plucking the strings with the fingers, producing thereby a peculiar guitar, or harp-like effect. This is technically known as *pizzicato*, and it tells very pleasantly as a variant, especially where the rhythm of the piece is marked or of a dance-like character. Often only the 'cello and double-bass players in the group have such staccato passages assigned to them. In this case the clear melodies of the treble strings stand out with particular charm. Pizzicato, like any other device, needs not to be overdone, or it palls upon the ear.

Another effect, not so easily observed, is produced when the strings are muted. This is done by placing a little notched clamp of brass, shaped like a comb, on the bridge of the violin, thus producing a kind of muffling, or deadening of the sounds. Often a penny is placed between the strings above the bridge to produce the same effect. When a large number of stringed instruments play with mutes (*con sordini*, as it is technically called), the result is a soft, mysterious, "woolly" kind of tone which contrasts powerfully with the usually brilliant and pungent sounds of the free strings. Composers have to give the players a few bars' rest to adjust the mutes; they can, however, be detached in a couple of seconds.

"Harmonics."—So the great family of Strings not only can make themselves heard, in combination, with their own rich vibrant quality of sound, but they can imitate plucked instruments, like harp and guitar, when playing *pizzicato*, and they may be muffled in such a way by the attachment of the mute that an entirely different sort of tone is emitted. Listeners will do well to train their ears by familiarity to these various effects. Still one more device in violin manipulation, though rather a matter for the student, may be briefly mentioned. This is the method of producing what are called "harmonics" by simply *touching*, instead of pressing, the string with the finger-tip. A flute-like tone, very ethereal and beautiful in character, is the result. The reason is that, by such touching, the vibrating string is divided into symmetrical segments capable of sounding their "length" notes, a well-known property in acoustics which need not trouble us here.

Familiar Examples.—Before leaving this general survey of "string-sound," a few musical examples of the particular string-effects referred to may not be unwelcome to the appreciative listener. Nearly every one has heard that dramatic chorus in Mendelssohn's "Elijah," when, upon the Prophet summoning the rain from heaven, the people burst out with a great cry, "Thanks be to God! He laveth the thirsty land." There are fine sweeping passages in this number for the entire band of strings in unison and octave, in which they very well represent the terrific swirl of the waters. Who, for instance, has failed to be impressed with that triumphant descending scale, *fortissimo*, on the violins, just before the entry of the last ten bars of the chorus referred to, when one can almost picture the deluge of refreshing rain at its height? A mixture of strings played with bow and *pizzicato* may be noted in Anitra's Dance from Grieg's popular orchestral suite, "Peer Gynt," so well known to concert-goers. Here, whilst a portion of the violins, violas and 'cellos play with the bow (*col arco*), the rest have a charming pizzicato accompaniment which lends peculiar zest and rhythm to the movement. In this case also may be observed the division of violas and 'cellos (as well as the violins) into two groups. The violins themselves, especially in Wagner's music, often play in four-part harmony. Instances of this multiple division of the first strings occur in the "Tannhäuser" overture, whilst, at the beginning of the Prelude to "Lohengrin," four solo violins play chords of delicate upper harmonics at the entrance of the "Swan" motive, or representative theme. A favourite Wagnerian device for strings (not, of course, restricted to Wagner's music only) is that of the *tremolo*, a kind of quivering trill produced by very rapid finger movement from one interval of a chord to another. "Tristan und Isolde" (opening of second act) furnishes an easily recognisable instance of this; but the stringed tremolo is of so common, indeed too common, an occurrence in orchestral music that the hearer will have no difficulty in frequently observing its entrance for himself.

We might with facility multiply examples of various kinds of stringed effects such as the above; but more enumeration would be outside the province of this volume. If even those quoted can be watched for and identified on future occasions, the listener will have made considerable progress in the art of hearing aright and with discrimination. We now pass to the consideration of other "broad" masses of tone, which, taken either singly or combined with the strings, give their own individual tinting to the sound-picture.

Wood-wind Voices.—We assume now that, from the descriptions in Chapter I, the hearer can pick out by sight the group known as the Wood-wind, consisting usually of flutes, oboes, clarinets and bassoons (two, as a rule, of each species). The pure, clear, but unemotional voice of the Flute (something like that of a boy-chorister) is most often heard in runs and florid passages, or else it sustains very high notes in the harmony. The Oboe, on the contrary, has a penetrating tone, appropriately described as "complaining," and it lends itself well to pastoral effects. The

From the painting by Carlo Dolce in the Dresden Gallery.

St. Cecilia Playing on the Organ.

Clarinet, richer in timbre, we have already characterized as the "female voice of the orchestra." The Bassoon, famous for his grunts, has been not inaptly termed the Buffoon of the Band. These four we shall meet again presently in closer intimacy. Just now we would direct the listener's attention to their playing together in concert. They are often used in massed effects to lend contrast to the strings. Their sounds, not unlike the "flue" and "reed" tones of the organ, will soon, with practice, fall with familiarity upon the ear.

The hearer may, perhaps, most helpfully bear in mind the comparative variety of sound-voices in the orchestra by contrasting, through ear as well as eye if possible, the relative tone-effects produced by the violinist and the organist, as fancifully represented by the painter Dow and his violin, and Carlo Dolce's St. Cecilia at the organ (see illustrations).

Colours on the Sound-canvas.—Should we pursue the fanciful analogy to colour in the sounds of the orchestra, we might characterize the Flute as giving blue tints, like the clear pure azure of the sky. The reedy Oboe adds, we might imagine, a hue of green to the picture, the rural element being associated with its plaintive tones. From rose-pink to blush-red may range, in our imagery, the warm appealing voice of the clarinet, giving, perhaps, a touch of human-nature to the sound-canvas. Denser shades of brown and green seem the appropriate *timbres* of bassoon notes, a touch of humour in landscapes being often, perhaps, suggested by the grotesque tree-stump or the fantastically shaped rock. Like a ray of brilliant and dazzling sunlight in all its glory and strength falls upon our ears the clarion call of the louder brass—the trumpet and trombones; whilst the horn murmurs of the purling brook, or, in louder accents, of the far-resounding sea. A living picture truly, made the more realistic by the occasional accentuation of the rhythm—the marking of the " high-lights "—when percussion instruments, drums, cymbals, and their like come in to intensify the effect.

Vibratory Analogies of Colour and Sound.—To some readers our descriptions may seem overdrawn. To others, those who have strongly marked in them the mysterious sense of sound-colour, the tints we have named may appear inappropriate and others will suggest themselves as more suitable. Each according to his taste. Our analogy between colour and sound is, anyway, not wholly unsupported by science. Vibration is at the basis of each set of phenomena. We learn this from the spectrum as well as from the sounding string. We are not, however, now penning a learned analysis of sound, nor yet a technical manual for the musical student. As already stated in our prefatory remarks, the readers whose sympathies and attention we are hoping to elicit are the great band of Listeners to Music. To these we address this Colour-romance of the Orchestra, feeling sure that, if they start with some kind of *picture* in their minds, the later grasping of details for a closer comprehension will be an easy and pleasurable matter.

Orchestral Colouring in Haydn's "Creation."—As we gave instances of stringed effects, so now we will briefly call attention to one work in which strings, brass and percussion tints can be readily identified. The work is Haydn's famous oratorio, "The Creation." Most concert-goers are familiar with its performance as rendered by full band, soloists and chorus. All instruments will be heard in the opening "Representation of Chaos," and it may be an interesting task for the tyro to pick out the various little *arpeggio* scraps, all of them fragmentary, for flutes, oboes and bassoons, which mingle with the seething mass of strings. Like the first touch of sentient life come in the flowing passages for clarinet, culminating in the famous scale passage (from B flat) at bar 31. The oboe solo in the chorus, "The marvellous work," is a striking entry for that instrument. Horns herald in the "softly purling brook." Clarinets, as well as flutes, bassoons and horns, colour "With verdure clad," the solo clarinet having a particularly charming part. A fine and impressive example of *tutti* (or the full band) will be found in that stirring number, "The heavens are telling." In the picturesque air, "On mighty pens," the clarinet announces "the merry lark," bassoons softly echo the cooing of the doves, whilst the flute vies with the human voice in imitating "the soft enchanting lays" of the nightingale. Other notable points in the score, such as the use of three flutes to usher in (at opening of Part III) the "Morning" of the new created world; the great blurt of the double-bassoon, where it is indicated that "by heavy beasts the ground is trod" (a famous piece of Haydn's well-known musical humour), and the fine climax where trumpets and horns hail the "Man, the Lord and King of Nature all," will repay the research of interested listeners. Further details, growing ever more and more fascinating as one learns to recognise them for oneself, will disclose themselves, as the performance proceeds, to those who have ears to hear.

Thus, in colours varied both in strength and hue, the Orchestra expresses a great language of its own. Works in which this tongue is pre-eminently heard, and that without undue complexity, are such symphonies as those of Beethoven, the operas of Mozart, and the sacred cantatas and oratorios of Mendelssohn. With increasing experience, the triumphs of modern orchestration, as represented by compositions of Berlioz, Brahms, Saint-Saëns, Schumann, Strauss, Wagner, etc., can soon be followed with keen and intelligent enjoyment. But we would advise the listener to get in touch with the earlier masters before he attempts to fathom the so-called ultra-modern school.

Tone-painting and the Tone-painter.—So far the general impression conveyed by an orchestral tone-picture. Upon a foundation or background of strings, the essential tints of which are seldom absent, the blues, greens, reds and browns of the musical landscape are contributed by the wood-wind. Strong and vivid patches of colour, the yellow and orange, may be represented by the brass family. A prominent bright point, the rising sun gilding the hill-top, finds an analogy in a great tone-climax, when, so as to bring before the imagination the first gleam of the Day-Star, Haydn uses, in the "Creation," a grand *tutti* with percussion instruments after the words "And there was light." Still pursuing the simile which exists between music and painting, we may consider the composer as an artist who, wielding palette and skilful brush, lays on the colours as his genius directs; now in great masses, now in delicate touches or vivid patches; here blending his effects of light and shade, and there bringing out the "high lights" in as striking a manner as possible.

The Unveiling of the Sound-picture.—Then enters the province of the interpreter. The conductor, with his baton, aided by the instrumentalists, unfolds the meaning of the picture and makes it a source of intelligence and enjoyment to the listener. The paint-box of musical colour has been, therefore, explored and utilised by the creative musician, and his completed canvas, full of symmetry and beauty, is unveiled to public gaze by the Chef and his Band. This, in brief, is the significance, for onlooker and listener, of the orchestral platform. We will now, if it please the reader, leave the auditorium and step, figuratively, on to the platform, to touch and handle, as it were, the very sound-sources themselves.

CHAPTER III

THE BOW-STRUCK STRING

Violin-tone—The art of the player—Cremona violins—Early stringed instruments—The evolution of Viol, or Fiddle—Viols in pictured art—Famous violin makers—Paganini, prince of violinists—Mendelssohn's "Violet"—The "strings" in chamber music—Violas and 'Cellos—The Double-bass.

THE first instrument that we will accost is the Violin, or rather a group of violins; for these may total anything from four or six to twenty or thirty and more in a band. The curious little fairy, eccentric in shape and insignificant in size, is, perhaps, placed in our hands by an obliging player. We note its polished rounded body; its slender neck terminating in a coil, or nut; the so-called "*f*" holes which admit the vibrating air to its interior; and the tightly-drawn strings, four in number, which, stretched over a wooden bridge in the centre of its frame, are kept in their position by screws or pegs inserted in its neck. The professional musician, familiar with the Fiddle from his childhood, can scarcely understand how strangely its shape and general appearance strikes an inexperienced observer for the first time. It seems a mystery indeed that, from so curious a source, sounds can go forth that can pierce, arouse, and yet softly soothe the senses.

THE VIOLIN.
From Prout's "Orchestra."

Violin-tone.—Possibly we gently tap the sonorous body with our fingers and realise that there is a column of resonant air within. That is the source of the sound, the "lungs" of the violin. We go further, and twitch a string. A short, guitar-like note is the result. The friendly player smiles and takes back his instrument. He lays it caressingly on his shoulder and, with his right hand, assumes the bow. This, a pliant stick with short handle, maintains, at a fixed tension, some strands of rosined hair. The bow, laid across the strings and drawn over them the best part of its length, produces the well-known violin-tone. It may be loud and strident, clear, or soft, as the performer wills. An unskilled player, trying to manipulate a violin with the bow, may find the instrument to emit an unpleasant squeak! "Scraping" is very far removed from playing, as most learners, and listeners to them, know to their discomfort. A tremendous art—entailing the experience of years, the dexterity of an expert, and the temperament of a musician—lies behind that little act of drawing the bow effectively across the string.

The Art of the Player.—Presently our player may do more for us. He may render rapid passages with astonishing execution; he may trill, shake and perform arpeggios (or harp-like chords); or he may play *pizzicato*, as we tried to do, with his fingers; or, by simply laying a finger on a string, he may bring forth flute-like sounds (harmonics) that are soft and ethereal in character. He may even rival the pianoforte, and, by bowing three or four strings at a time, evolve chords in full harmony from this wonder-working little mechanism. But we will probably enjoy most of all his rendering of some simple, well-known tune with due expression, some old-world folk-song intoned with tenderness and pathos on the upper strings. We watch his nimble fingers as he holds down, or "stops," certain of the four strings with his left hand. We notice that this left hand moves freely up and down the neck, or finger-board. In reality, the performer is lengthening or shortening the vibrating string, and thus, in accordance with a law of acoustics, lowering or raising its "pitch." Starting with the lowest, or G string, and depressing the index, second, third and little finger in turn—then passing successively to the upper strings and doing likewise—a violinist can play the diatonic scale of G in two octaves. By shifting his hand into what are called "positions," as well as by regulating the actual stretch of his fingers, all kinds of scales, including the chromatic and even enharmonic *genus*, are possible to him. A moment's thought will show that this opens up for the four strings of the violin an extension of compass to over three octaves, and an infinite variety in pitch of tones.

Cremona Violins.—Once more we take this little marvel in our hands, and note perhaps the smoothness of its varnish. We peep within the sound-holes, and see, maybe, a maker's name. According to the name within, as a rule, is the intrinsic value of the instrument. Whilst a cheap modern fiddle may be purchased for a few shillings, those bearing the magical inscriptions of *Amati*, *Stradivari*, or *Guarneri* may run to prices over a thousand pounds. A violin, like wine, improves with age. Fabulous sums have been paid for old violins of Cremona make, especially for those dating from the close of the seventeenth to the early part of the eighteenth centuries. These sums, indeed, will continue to be paid as long as the instruments themselves are in preservation. Surely we are unearthing an extraordinary romance here. Age and use are not generally looked upon as improvers. Nor is it often that, in things mundane, we can point to some achievement of long ago which no modern science of mechanism can further advance or develop. Yet this is absolutely true of the violin, as we shall presently see.

Apollo Musagetes
(Vatican Museum, Rome).

Early Stringed Instruments.—The story of the plucked string may be traced back as far as the twanging of the primitive hunter's bow. Whilst Hermes (Mercury), both in Egyptian and Grecian mythology, is accredited with the discovery of the resonance of a stretched string over the tortoise-shell, the fabled god, Apollo, is delineated both with bow and lyre. Homer speaks of the archer sending forth death with his arrows; yet, under another aspect, the great Phœbus, as Apollo

Musagetes, with doubled or trebled bow-string, can produce "sweet sounds" that heal the wounded body. The ancient Egyptians, Hebrews and Greeks favoured stringed instruments plucked with the finger, of the harp and lyre kind. It was probably among the people of Islam that the use of a bow first suggested itself. Moors, Turks and Arabs have long favoured a nasal method in their vocal production. Some may find in this predilection a reason for their preference of the more strident effect of tightened hair drawn across a stretched string to the softer impact of the human finger. Be this as it may, the Arabian Rebab was no doubt the predecessor of the Provençal Rebeb, or Rebek, which was introduced into Europe about the time of the Crusades. The old one-stringed rebab is still played in the cafés at Cairo.[1] The Rota, Crout, or, in Gaelic, *Cruit*, was, in most of its primitive forms, played with a bow. It owes its origin to the Kelts. In psalters and church sculpture of the early centuries of the Christian era, figures of angels and saints, and often of King David, are represented as playing on bowed (stringed) instruments of the Rota class.

The Evolution of Viol, or Fiddle.—In France the Troubadours, and in Germany the Meistersingers, used to accompany their folk-song performances on stringed instruments played with a bow, which were derived from the primitive Rebab and Rota. The varieties and names of these crude early fiddles make confusing reading. We may take it, however, that the French Crout, Rote (from *Rota*), Vielle and Gigue (in Germany, respectively known as Kruth, Rotte, Viedel and Geige) were all of a similar kind, if slightly progressive in the order named. Under the terms *vielle* and *viedel* we easily recognise the later viol and fiddle. *Fidli* (plural of Fidil) occur among musical instruments mentioned, in connection with the Pipes, in an ancient Irish manuscript describing the Fair of Carman (Wexford). The last record of a fair at Carman was in A.D. 718, whilst the manuscript in question belongs to the first half of the twelfth century. The eleventh century is given as the time of the first introduction of Eastern bowed instruments into Europe. But the Abbé Gérbert gives an illustration of a one-stringed (bowed) instrument from a manuscript of the eighth century. Whether the Kelts themselves adapted the bow, or borrowed it from the East, is, however, a question rather for the

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[1] See illustration, opposite p. 194, chap. xiv,

the Orientals and Rota (Crout) of the Kelts gradually transformed themselves into that extraordinary little instrument which, in the hands of an expert, is capable of such marvellous musical effects.

Now, whether we consider the shapes of the mediæval viola d'amore, viola da braccia (or arm-fiddle), or the viola da gamba (the leg-viol), we find in all the same features of interest which were to reach their perfection in the Violin—namely, the sounding body (or belly), the stretched strings (over a bridge) attached by screw-pegs to a nut, or head-piece, and the bow, which latter also had its various shapes and designs. A most delightful description of the violin and its many pieces occurs in Haweis's "Music and Morals," the book of an enthusiast, which all amateurs are recommended to read. Romance is even associated with the peculiar kinds of varnish used, whilst the very "*f*" holes are not without interest to the connoisseur. It remained for the town of Cremona in North Italy to concentrate all previous efforts into one consummate design which has, so far, defied the march of time and further improvements. The period at which this astonishing climax in viol construction was reached was towards the end of the sixteenth century, so that the Violin proper is little more than two hundred years old.

Famous Violin Makers.—So much literature exists on the history of the perfected Violin that we need not here linger over details. Suffice it to say that Amati of Cremona was the first to give to the world the orchestral fiddle in its present accepted form. Perhaps no more famous workshop has ever existed than that of this notable Amati family (1592-1682), whose pupil, Antonio Stradivari, was to outstrip even his masters in the mechanism of this marvellous musical instrument. Later, another celebrated maker of violins, a disciple of the same school named Giuseppe Guarneri, completed the trio of master artisans, geniuses in their way at constuction, upon acoustic principles which have never since been surpassed. Neglecting the former profuse ornamentation of various shaped viols by the, till then, foremost violin mechanic, the German Tieffenbrucker, the Cremonese workmen devoted themselves mainly to the turning out of a plain if wholly sonorous frame-work, omitting no detail or finish which had for its object strength and beauty of tone. How great was the patience of research, how many the experiments, and how supreme the devotion of the contrivers to their task form a narration of genuine concentrated endeavour at which the world may well wonder. Instruments bearing the magic names and heraldic devices of Amati, Stradivari and Guarneri (familiarly known as "Joseph") are high-priced treasures indeed, both for musician and connoisseur. A motto on an old Tyrolese violin of Tieffenbrucker ran as follows: "Viva fui in sylvis; dum vixi tacui, mortua dolce cano" ("I was alive in the woods; whilst I lived I was silent, being dead I sing sweetly"). Like the wood of their violins, the Cremonese artificers have also certainly attained an immortality which great players transmit from one generation to another.

Paganini, Prince of Violinists.—Of noted performers on the violin we might name many. But one extraordinary artist stands forth among his fellows so pre-eminently that a brief reference to him will be all that our present purpose requires. We allude to Niccolo Paganini, who first saw the light at Genoa in 1784. Paganini was, like Mozart, a wonder-child. As a mere babe he was attracted to the mandoline and guitar, but, ere long, he concentrated all the fervour of his deeply passionate nature on the recently perfected violin. Self-taught, he added his own inventiveness in execution to the feats of others, and soon, as a public performer, he created a *furore* on the Continent. Never before had a violinist obtained such astounding as well as fascinating effects from his instrument. Every gradation of tone, every shade of expression, seemed to lie beneath his bewitched fingers. The execution of all kinds of harmonic and *pizzicato* effects, the most dazzling runs and weird combinations, were alike easy to him. Some there were who declared that the player was "possessed"; and, when on the platform, so linked did the violin and the eccentric figure of the artist become that it was difficult to say which of the two was the most alive with vibrant and electric harmony. Even in the tuning of his instrument Paganini departed from conventional methods, and he was able to dispense with one or two strings at will. Strange and fantastic in manner and disposition, this prince of violinists was one of the first to recognise the kindred genius of the French composer Berlioz, who wrote for the orchestra with as much originality of design as did Paganini manipulate the violin. It is touching to read that, after the failure of Berlioz's

From a contemporary lithograph.

THE MODERN ORPHEUS: PAGANINI.

grand opera "Benvenuto Cellini" owing to the intrigues of his rivals, the unfortunate composer was consoled the following morning by receiving from his one warm admirer, Paganini, a gift of twenty thousand francs. Nor did Paganini pass without leaving a mark upon his times. After hearing the wonderful and unheard-of effects which this great violinist obtained from his little four-stringed Stradivari violin, the great Abbé Liszt set himself to work *virtuoso* magic of a similar astounding kind on the many-stringed pianoforte. Some of the Liszt variations and rhapsodies would doubtless never have been conceived had it not been for the art of Niccolo Paganini.

Mendelssohn's "Violet."—Appreciating the marvel and resources of this orchestral sound-source, we can well realise its importance as a factor in musical colour. It is interesting, in this connection, to remember that Mendelssohn spoke of the violin as the "violet" of the orchestra, whether on account of the timbre-effect which its tones had upon his artistic imagination, or by reason of its pervading "fragrance" of musical emission, it is perhaps impossible to say. None knew in truth so well how to write for "the strings" as the genial composer of "Elijah."

This knowledge he eminently exhibits not alone in his choral works, but also in his great violin concerto and especially his chamber music.

The "Strings" in Chamber Music.—In Chamber Music, by which term is meant that mainly written for the so-called "quartet" of solo strings, listeners who desire the closest acquaintance with the violin family may best satisfy their laudable curiosity. In the stringed quartet proper, first and second violin, viola and 'cello respectively take the soprano, contralto, tenor and bass parts of a composition which is usually in sonata, or classical "form." There are also stringed trios, quintets, and so on; and not infrequently the pianoforte joins violins and 'cello in concerted movements of great beauty. To many musicians, the department of chamber music represents the highest art achievement, since it is possible therein to attain to perfection in *intonation* as well as execution. Nearly all great composers have tried their skill at stringed trio and quartet writing, the chamber music of Haydn, Mozart, Beethoven, Mendelssohn, Schumann and Brahms being particularly notable. We would, indeed, advise the orchestral enthusiast occasionally to attend chamber-music concerts, if it were but to realise the most refined effects producible from the "strings."

Violas and 'Cellos.—The development of the viola (or tenor violin), the 'cello and the double-bass from the old viols, although not of such enthralling interest as the perfection of the violin, is not without its significance. Both the old arm and leg fiddles served as models for the larger strings. From the *violone*, or great viol, it is customary to trace the development of the violoncello, now abbreviated to 'cello. Both violas and 'cellos have a province of their own in orchestral music. The violas possess a dreamy, veiled, if

THE VIOLONCELLO ('CELLO).
From Prout's "Orchestra."

somewhat dull tone as solo instruments. But when massed, and in combination with other strings, they give forth strong, penetrating sounds[1] which are well fitted for sustaining alto and tenor harmonies in the web of tone. The 'cello, both in solo and concerted music, is an instrument of great charm, and a vast quantity of beautiful music has been written for it. Many hearers will be familiar with its effective use in *obbligato* passages, such as those which occur in " It is enough," the well-known bass solo from Mendelssohn's " Elijah." 'Cello playing, in the hands of distinguished artists, has reached a high pitch of excellence at the present day. In tone the 'cello has a quality not unlike that of the bass and tenor voices combined ; tender and appealing in the upper notes of its compass, deep and sonorous on its lower strings. For this reason, it not only fills in tenor harmonies in the orchestra, but largely sustains the bass of all concerted compositions.

The Double-Bass.—The double-bass, or big bass fiddle, plays rather the rôle of an adjunct to the bass of the 'cello than an independent part by itself. It is content, in fact, to murmur an octave beneath its smaller-sized companion. Yet there have been double-bass solo players who, like the late Bottesini, have done wonders with this gigantic and gruff-toned instrument. It is most effective in the orchestra when, apart from the other instruments, it plays *pizzicato*. The great throbs with which the basso occasionally stands out will be easily recognised by a careful hearer. This rhythmic effect is due to the finger-plucked string of the double-bass, which then asserts itself with most prominence as the ground-bass of the band.

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[1] Hence they need never be so numerous as the violins.

Such, then, is the

The Double-Bass (Contra Basso). *From Prout's "Orchestra."*

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stops of the so-called "flue" and "reed" variety. Again, these "voices from the wood" assimilate most nearly to certain varieties of the human voice. Thus we have, in the flute, an echo of the youthful chorister; now and then the timbre of the oboe, slightly strident and almost nasal, can be traced in the tones of some vocalists; whilst the dramatic *prima donna* finds her instrumental double in the clarinet, with its three registers of sound known as the *chalumeau* (low and rich), the medium (weak and dull), and the the acute (bright, full and even piercing in the extreme higher notes). With its range of about three octaves, this instrument exceeds its human prototype by some half-dozen notes at lower end. Otherwise the resemblance is sufficiently remarkable to be utilized as such by a great number of composers.

Three Treble Voices.—We may, then, get a fair idea of the province of the wood-wind if we look upon the three sound-sources named as the Treble Voices of the orchestra. It is customary to write for them on the three upper staves of a full-score. They are generally in pairs, whilst three concert flutes are not unusual in modern scoring. In Handel's day there were a great many different kinds of oboe; but nowadays, save for the occasional appearance of an alto oboe, the *cor anglais*, two of the type of ordinary treble instrument are all that are necessary. Three varieties of clarinet are used by players, the favourite one being that in B flat, popularly known as "the B Clarinet." But these distinctions need not trouble the listener unless he desires to pursue his studies further and compare the different species for himself. First and second flutes, first and second oboes, and first and second clarinets, as a rule, take first and second parts in the harmony of a composition, though occasionally the words *a due*, in a score, indicate that they play a passage in unison. The province of the first flute is most often to sustain high holding notes, or play rapid and florid phrases. Melodic scraps are generally the lot of the first oboe and clarinet; but many and diverse are the methods of composers in their treatment of this treble trio. The listener's main task is to endeavour, as soon as possible, to discriminate between the three shades of tone: the liquid flute, the plaintive oboe, and the luscious clarinet. The pleasure consequent on recognition well repays careful and wrapt attention.

Breathing-time for the Wind.—One vast difference between the groups of stringed and wood-wind instruments is that, whilst the former may, without satiety or weariness, bear the brunt of the business, wind-instruments soon pall upon the hearing, and, moreover, the players have continually to be allowed breathing-time. So we need not expect to hear the wood-wind continually in a band. On the contrary, they only enter at intervals, and generally for some good reason. Is a distinct colouring sought as a contrast to the string-tone? Then we will hear the wood-wind, possibly by itself, for some half-dozen bars. A good instance of this is found in the familiar score already quoted, Haydn's "Creation," where, in the accompaniment of the trio, "On Thee each living soul awaits," we have some clear and easily distinguishable writing for the wood-wind combined with the horn. The flute, in agility, almost equals the violin; still, of too much flute the hearer soon tires, and its entrances are all the more effective if used with discretion. Again, of so penetrating a tone is the oboe, that a continuance even of melodic passages on it has a tendency, if not varied at intervals, to pall upon the ear. Besides, the oboe-player, more than any other of the wood-wind instrumentalists, needs to take breath, or, rather, to emit his retained breath, from time to time. Rest and cessation are, then, necessary for the wood-wind group. Bearing these few facts in mind, the concert-goer will soon begin to follow the entries and silences of the three-named treble instruments with ever-increasing interest. We will speak of the bassoon, the bass of the wood-wind, later.

Readers who have had patience with our descriptions so far, may ask for some more detailed information regarding the exact difference between each member of the wood-wind, as well as the genealogy of these sounding wooden tubes. This we will now give as briefly and clearly as possible. The general appearance of each well deserves study. Unlike the violin, flutes, oboes and clarinets are still going on to perfection. They have, nevertheless, arrived at that stage of adaptability which may be termed "sufficient" for orchestral requirements. In fact, often their very deficiencies in construction lend a character to their tone, as is the case in the various "registers" of the clarinet, which we will try to explain presently.

The Flute.—Already our descriptions of the "wood" group in Chapters I. and II. may have given a rough notion of this class of instrument. For closer analysis, and at the risk of some repetition, we will now more minutely examine the Flute. The principle of breath blown into a hollow tube is as old as the days of Jubal.[1] At first this was done from one end of the pipe, and thus arose the primitive form of flute, the *flûte à bec.* The Egyptian "Nay" still survives in this early form, whilst the flageolet is sounded in the same way—*i.e.* from one end, by means of a mouthpiece. The *Flauto traverso,* held sideways when in use, is of comparatively recent introduction (eighteenth century), and its modern improvements are due to the ingenuity of Boehm, who facilitated fingering and other matters. This type of flute, blown through a hole in the side at the upper end of the tube, requires much practice before tone can be produced from it at all; in fact, one ignorant of flute-playing may try in vain to obtain a sound, no matter how vigorous may be the blowing. There is, in short, an art in *blowing* the flute, as there is an art in most things worthy of accomplishment. Acousticians are not quite agreed as to the exact conditions under which this lateral method of blowing produces sound. The vibration of the enclosed air is set up by means of the breath impact; that, at all events, is clear. A regular series of holes, to be covered or opened by the fingers or certain flaps or keys, may now be noticed. When these are all closed, the entire column of air within is put into vibration. By opening them, this vibratory length can be gradually and symmetrically shortened so as to produce scale intervals. On an acoustical principle, harder blowing produces an upper octave, and so on. The Piccolo is an acute kind of octave flute which is used for high and shrill orchestral effects.

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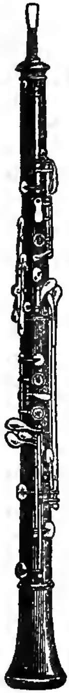
[1] Genesis iv. 21.

THE FLUTE.

From Prout's "Orchestra."

The general look of the straight, cylindrical tube of the flute (though some flutes are very slightly conical towards one end) is not difficult of recognition. When not in use, it can be taken to pieces in sections. The Boehm Flute, with its curious little metallic keys to assist the fingering, measures about two feet long. When the manipulation of the instrument has been mastered, very rapid and brilliant passages are possible upon it. The expression "tootling the flute" arises from an action of the tongue of the player, as though he were pronouncing "too"; by which means accent and quick repetition can be elicited with much effect by an accomplished performer. A high-placed lover of flute music was Frederick the Great, for whom the composer Quantz wrote hundreds of flute selections. Kuhlau was also pre-eminently a writer of flute music. A notable and striking passage for the orchestral player occurs in Rossini's Overture to "William Tell," where the flute accompanies the oboe's imitation of the Swiss alpenhorn. Both in flutes held lengthwise (as in Egyptian and Grecian sculptured art) and the transverse modern flute, as we have already hinted, the blowing is the main art to be achieved. As far back as the days of the classic Athenians, Alcibiades is said to have relinquished flute playing, considering that it spoiled the shape of his mouth!

The Oboe.—The Oboe, next to the flute, is of very great antiquity. Its old English name was Hautboy (from old French "high wood"). Species of oboe have been found among ancient instruments of the Egyptians, Grecians and Chinese, some antiquarians pointing to scraps of straw lying in venerable tombs close to these instruments as the remains of the "reed" with which the oboe is played. This reed, in fact, gives to the oboe its distinguishing characteristic. No longer, as in the flute, does the player's mouth come into immediate contact with the sounding-tube. A "reed," held in the mouth and set into vibration by the breath, communicates its commotion to the enclosed column of air. Sometimes one may hear a rude prototype of this reed when the rustic places grass-blades between his lips and gets sounds by whistling through them. The oboe reed is what is known as a "double-reed." We have already described it as two slips of cane so placed against each other that a very narrow passage is left for the air to pass between them. These are attached to the top-end, or staple, of the instrument, and are held in position by means of silk. The slightly conical shape of the oboe, held



THE OBOE.

From Prout's "Orchestra."

erect between the player's lips, will doubtless soon be picked out among the wood-wind. It has a somewhat similar, if apparently much more complex, system than the flute of keys or flaps for opening and shutting the holes pierced in the side of the instrument. We have previously referred to the peculiar "complaining" tone of the oboe. Prout well describes it as "incisive." It stands out unmistakably among its fellows, and is, indeed, on account of its assertiveness, less used than the others of this group. Yet the oboe has much charm when appropriately introduced and played with discretion.

Old as is the oboe, its actual present use in the orchestra is comparatively new. In the days of Bach there were many more oboes in the band than there are now. Similarly, Handel scored for more than the modern composer. The present habit restricts the number of oboes usually to two. From the fact that the small reed of the oboe requires the breath to be held back when it is vibrating, the player has to get frequent intervals for free breathing. We realise this when listening to one of the finest melodic portions ever written for the instrument, that which introduces Mendelssohn's impressive aria, "For my soul thirsteth for God" (42nd Psalm). The thrilling unrest, the mournful plaint, the aspiration to higher things so beautifully herein painted in tone leaves few listeners unmoved by it. The "reedy" pastoral timbre of the oboe has already been mentioned. In imitative effects it has been utilized by Beethoven for the quail (Pastoral Symphony), and by both Haydn and Saint-Saëns for the crowing of chanticleer. As the natural treble of the bassoon, it thus has its share of semi-comic and humorous musical quality. The alto-form of the instrument, the *cor anglais*, is said to be derived from Bach's favourite *oboe da caccia*, or oboe of the chase. Many concert-goers may have heard this all-too-little-used instrument in the *Largo* of Dvořák's symphony, "From the New World," where its quaint melancholy voice, played very softly and quietly, is most attractive.

The Clarinet.—The Clarinet differs from the oboe in being an instrument played with a single reed. In appearance the clarinet might be mistaken for a large oboe. Closer examination reveals a wider bell and a different mouthpiece made of the single reed named. This consists usually of cane narrowed to a fine edge and attached to a wooden or ebonite mouthpiece, which admits the breath of the player into the tube of the instrument. This reed requires much practice to manipulate. Often, instead of producing a musical sound, it may give forth a species of goose-quack, called appropriately by the French, *couac*! The clarinet also is much affected by atmospheric change; a frequent trouble to the orchestral player. Comparatively a modern instrument, we do not find the clarinet in the scores of Bach and Handel. Later composers are, however, very partial to it, Mozart, Beethoven and Weber using it with much skill and effect. It is supposed by Mr. Chappell to have had a prototype in the ancient Shawm. In its present form it was invented by one Johann Christopher Denner at Nuremberg about 1690, improvements being made by Klosé, and, recently, by John Clinton, who has done much to improve faulty intonation consequent upon atmospheric changes of temperature. In

The Clarinet.

From Prout's "Orchestra."

spite of its difficulties, the clarinet is, in many ways, the most resourceful of orchestral instruments. It is manufactured in three varieties, the C, B flat, and A. Of these, the B flat (or "B") is most favoured both by players and composers.

Prout draws attention to the fact that the clarinet, of all reed instruments, has a cylindrical instead of a conical tube; hence it gives a note on the same principle as a stopped organ pipe—namely, an octave lower than that of a corresponding open pipe. But neither this fact, nor the circumstance that the fingering of clarinet is entirely different from that which obtains on flute, oboe and bassoon, need trouble us here. Reference has already been made to the lower, medium and high "registers" of the clarinet. Accomplished composers find these registers very useful for peculiar colouring, which we may fancifully describe as ranging from deep crimson to brilliant rose-pink. The *corno di bassetto* (alto) and the bass clarinet occur occasionally, but not very often, in modern scores. Nearly every orchestral composition of any pretensions contains passages for the "female voice" of the band, so details of its entrance are unnecessary.

The "Wood" in Mozart's "Don Giovanni."—If the reader has now got a fairly clear idea of the three treble voices of the wood-wind, we would advise him to hear, as soon as possible, such a work as, say, the Overture to Mozart's "Don Giovanni." Throughout the entirety of this immortal opera, but especially in the Overture (scored, it is said, by the genius of Mozart, in a single night!), the wood-wind most beautifully contrasts with, and is neatly balanced by the strings. As Mozart only uses brass at his strong climaxes, and always sparingly, the softer voices of the wood will easily be recognised. The intelligent hearer is particularly directed to listen for entrances of the flute "silvering" the violins; for all sorts of wood-wind combinations—such as flute with bassoon, or oboe with clarinet; and, notably, for "sustained" passages for the whole or one or two members of the wind whilst the strings play rapid or melodic portions. The dreamy voice of the horn is also used constantly by Mozart on sustained notes; but a little attentive listening will easily separate this sound-source, later to be more closely examined by us, from the very distinctively-voiced wood.

It will be noticed in the Mozart Overture, and in most works of the kind, that wood-wind, and other instruments of a "wind" or percussion character, are ever more or less a superstructure above the solid groundwork of the strings. This fact cannot be too often impressed upon the hearer. The strings seem never to weary, never to pall; the wind instruments, on the contrary, need many breath-marks and resting places—one might almost add, the oftener the better. It is true that there is chamber music for the wind as for the strings; but the amount of this is not by any means so extensive, nor, we will venture to assert, so interesting and attractive. Nevertheless, the amateur who wishes wholly to familiarise himself with the sounds of the wood-wind, cannot do better than take an early opportunity of hearing such concerted music as exists for the "wood," as also any arrangements of solo-flute, solo-clarinet, etc., with piano or string-band.

CHAPTER V

HUMOUR IN THE BAND

The orchestral clown—Composers and the Bassoon—Instrumental humour—The wood-wind group—Wood-wind devices—The art of the great tone-painters—The personality of players—A genial bandsman.

THE "saving sense of humour" occasionally manifests itself, even in the most serious aspects and conditions of life. Humour has been variously defined; and, while it is safe to say that it is something which tends to excite laughter or merriment, the "unexpected" that happens partakes of several characteristics, such as the gay, the frivolous, or the grotesque. We are disposed to speak of music, *per se*, as being lively, tripping, or even "strange" and surprising. When we come exactly to define the nature of such music, we are as much at a loss as when we try to explain why one person's talk amuses us, whilst another's chatter may arouse boredom. "Quick" music is not always merry; witness many of the rapid preludes and fugues of J. S. Bach, which one can scarcely describe as droll. There is always something enlivening, it is true, about tuneful rhythmical marches and well-marked dance-measures. In these cases no doubt, time and pace have something to do in producing the exhilarating emotional effects experienced. In comic operas—such, say, as those of Sullivan—the words, so appropriately linked with " patter " and other music, have their foremost place in the awakening of fun. Take the beautiful tune, " A magnet hung in a hardware shop " (from " Patience "). This really charming music might just as well have been set to serious words for all the inherent humour it contains. In the orchestra, however, we often get purely comical effects which, if difficult to define, are none the less easily recognisable. In connection with the next instrument presenting itself for acquaintance on our list, the Bassoon, we will endeavour to find out how far it deserves the epithet of " the buffoon " of the band.

The Orchestral Clown.—First, let us examine this orchestral clown, trying to get a fair idea of his shape and characteristics. By relationship, having a double-reed as a sound-producing mechanism, the Bassoon is connected with the oboe family; in fact, it is the natural bass of the orchestral oboe. It is, consequently, large in size, bearing much the same proportions to the treble instrument as the violoncello does to the violin among the strings. The bassoon also, apart from all comicality, fills in tenor and bass harmonies in the wood-wind group when harmony in four or more parts is required. Its tube is quite nine feet in length; but, for convenience in the holding, this is doubled on itself. Hence the old name "Fagotto," from a fancied resemblance to a faggot, or bundle of sticks. The reed is, moreover, much larger than that of the oboe, and it is connected with the body of the bassoon by a brass crook quaintly curved in shape.

Like most other orchestral instruments, the bassoon is traced to very ancient times. In its present form, however, its invention, or musical adaptation, is generally attributed to Afranio of Ferrara. Its scale has been described as "capricious," the "grunting" quality of its lower notes having much to do with the comic tone-effects of which it is capable. In the hands of a good player, the upper compass can be both expressive and sonorous, having the colour both of the 'cello and the human (tenor) voice. So, in moods, the great buffoon can be appealing and even tender. But we are now rather concerned with its droll qualifications. Few listeners there are who have not wondered from what source come the occasional blurts and snorts of a deep and mysterious bass. Let the Fagotto now declare himself, as some of the best composers have delighted to depict him, as the merry-making gnome or great gamester among instruments.

Composers and the Bassoon.—None knew so well to avail himself of the funny traits of the bassoon as "Papa Haydn." His works abound with musical gaiety of all kinds in which this instrument has a liberal share. Familiar instances of general humour in Haydn usually quoted are the "Surprise" and "Farewell" symphonies. The great bang in the former, in these days of orchestral thunder, would perhaps now be deemed a very poor joke. The "Farewell" symphony was

THE BASSOON.
From Prout's "Orchestra."

mechanism, the Bassoon is connected with the oboe family; in fact, it is the natural bass of the orchestral oboe. It is, consequently, large in size, bearing much the same proportions to the treble instrument as the violoncello does to the violin among the strings. The bassoon also, apart from all comicality, fills in tenor and bass harmonies in the wood-wind group when harmony in four or more parts is required. Its tube is quite nine feet in length; but, for convenience in the holding, this is doubled on itself. Hence the old name "Fagotto," from a fancied resemblance to a faggot, or bundle of sticks. The reed is, moreover, much larger than that of the oboe, and it is connected with the body of the bassoon by a brass crook quaintly curved in shape.

Like most other orchestral instruments, the bassoon is traced to very ancient times. In its present form, however, its invention, or musical adaptation, is generally attributed to Afranio of Ferrara. Its scale has been described as "capricious," the "grunting" quality of its lower notes having much to do with the comic tone-effects of which it is capable. In the hands of a good player, the upper compass can be both expressive and sonorous, having the colour both of the 'cello and the human (tenor) voice. So, in moods, the great buffoon can be appealing and even tender. But we are now rather concerned with its droll qualifications. Few listeners there are who have not wondered from what source come the occasional blurts and snorts of a deep and mysterious bass. Let the Fagotto now declare himself, as some of the best composers have delighted to depict him, as the merry-making gnome or great gamester among instruments.

THE BASSOON.
From Prout's "Orchestra."

Composers and the Bassoon.—None knew so well to avail himself of the funny traits of the bassoon as "Papa Haydn." His works abound with musical gaiety of all kinds in which this instrument has a liberal share. Familiar instances of general humour in Haydn usually quoted are the "Surprise" and "Farewell" symphonies. The great bang in the former, in these days of orchestral thunder, would perhaps now be deemed a very poor joke. The "Farewell" symphony was humorous unless by reason of their shape! Yet doubtless the ancient Romans must occasionally have presented comical figures with their odd wind-instruments (see illustration of player on the Buccina, a species of military horn). The drum now and then appears to cut capers, as in many Beethoven passages, and especially in his Scherzos (see that to Choral Symphony, where the octave rat-tats on the kettle-drums surely signify a species of, let us whisper, *grim* humour!). Certain masters, it may be alleged, have been more successful than others in eliciting jokes from strings, wood and brass. Among these, of moderns perhaps Schumann and Dvořák, after Beethoven, have jested with most effect. But musical humour, like all that is best in every kind of humour, lies somewhat beneath the surface and may not be evident to all. Be this as it

ROMAN BUCCINATOR.

may, the casual listener may now and then watch for bassoon effects, since with them unquestionably lies the chief, if unconscious, wit of the concert platform.

The Wood-wind Group.—Our wood-wind group is now complete. We will be pardoned for reiterating that it consists of the clear-voiced flute, the plaintive oboe, the luscious-toned clarinet, and the freak-loving bassoon. It will be noted that, in all these instruments, the lengthening and shortening of a sounding tube, by means of closing and opening lateral holes, causes a column of air set in motion by the breath, or indirectly by a reed, to vibrate in longer or shorter sections. This is the ground principle of wind-instruments. It would be unfair to burden the reader with too many acoustical details; but we will add that much depends upon the force of the breath as to whether the tube sounds its fundamental or upper octaves. This allows of extent in compass for these instruments of from two to three octaves. Taken in combination, the wood-wind group covers a range of some five to seven octaves—the latter, when we include the extra higher and lower octaves added respectively by piccolo (flute) and double-bassoon. This, corresponding to an ordinary keyboard range, enables composers and players to get an infinite number and variety of effects from the wood-wind alone.

The limitations of the group, owing to its timbre and breath-requirements, have already been noticed. As well as in melodic passages, many attractive and curious results may be had by a judicious and ingenious use of the shakes, or trills, of which all the wood-wind instruments are capable. Shakes are produced by the rapid opening and closing of the sound-holes; but they are not easy on all notes, and have to be written for with knowledge and discretion. The flute is particularly apt at trilling; witness the many delightful "bird" effects for which it is used. Prout quotes a very attractive oboe solo from Cherubini's "Eliza" in which trills and turns are in evidence. A famous passage occurs in Beethoven's "Egmont" Entr'act (No. 3). Clarinet and bassoon can both "shake" with ease; but the latter, when not engaged in sportive vein, is best restricted to melodic work, or "holding" of tenor and bass wood-wind harmonies.

Wood-wind Devices.—Odd chirping effects are often drawn from the wood-wind when the performer is directed to play *staccato* (or with detached notes) on them. The staccato, in the hands of a good performer, may be most attractive as well as curious. The staccato portion for flute in Rossini's "William Tell" Overture will occur to most listeners' memories. Rapid reiterated notes are rendered with facility on the flute by means of the device known as "double-tonguing." The intelligent concert-goer will soon get to recognise all these various modes of tone-production. Staccato playing on oboe and clarinet is also frequent. A noted passage for staccato bassoons (two in unison) may be heard in Beethoven's Fourth Symphony. A kind of "clucking" effect may also be emitted from this instrument; indeed, many grotesque sounds of all kinds can be drawn from it, if the player wills to amuse his hearers.

The Art of the Great Tone-painters.—This chapter on "Humour in the Band" would not be complete if we did not draw attention to the fact that all these various tone-colours give just that opportunity for display of a composer's taste and temperament which the pigments of the artist afford in assisting a painter to give expression to the mood which sways his productive moments. Fathers Bach and Handel have availed themselves more of the solidity and grandeur of polyphony in its diatonic genus than they have endeavoured to tickle the ear with all sorts of odd and startling surprises in sound-colour. It is to be remembered also that the orchestra, in their days, was much less rich in tint than it is at present. Haydn finds scope for the geniality and playfulness of his disposition in the frequent use of clarinet and bassoon, instruments not available to the older masters. Mozart, ever bright and overflowing with the gift of melody, never fails to charm one by the delicate balance of his tone-forces. He always delights, whilst he never stoops to startle. Of a romantic type in orchestral colouring we find many instances in the operas of Weber. Spohr explored the chromatic genus in music; but always in serious style. Beethoven had so strong a feeling for "colour" in tone that continually, in his pianoforte sonatas, we are reminded of orchestral passages. Here, we might imagine a rapid sweep on the violins; there, a solidly moving bass for the 'cello. In some florid treble arpeggios we can believe he had the flute in his mind; in others we fancy the odd jerky intervals would sound so laughable on the bassoon. In his Symphonies—the "immortal nine"

—Beethoven may be said to have delved into the depths of what is called the "Haydn-Mozart orchestra." Mendelssohn, always refined, scholarly and elegant, drew all that was purely beautiful and legitimate from his sound-sources. Schumann gave vent to the deep, solemn, and occasionally humorous trend of his philosophic nature in all that he wrote for the full band. Sarcasm may even be traced in him, when, like the Davidsbündler of his fantasies, he wishes to have a fling at the musical philistines of his day. Brahms followed somewhat on the same lines, his idiosyncrasies of genius finding full scope in the wealth of tone-hues which were at his disposal in the modern orchestra.

Thus we could go on through the list, observing how each composer gives to his musical canvas just that layer of colour which is an index to his own mind. Analysis of this kind will be found intensely interesting, if the amateur cares to follow it further. Lately a wide field for character-delineation in sound has been opened up, not only by an increase of orchestral forces, but also by certain new and ofttimes bizarre methods of the ultra-moderns who claim to belong to the schools of Strauss and Debussy. To criticise

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like that of the orchestral conductor, is associated with a "band."

The player, undoubtedly, gives as much as he takes in regard to his instrument. If he be a musician of earnest endeavour and keen enthusiasm, he will be found to invest his sound-source with something of his own calibre. We can rely on him to give us the best that is in it as in himself. On the contrary, if he is careless and indifferent, there may be fear that a slipshod and poor performance, were it only on the drum, will spoil the beauty and symmetry of a whole composition. Even as we find type upon type of instrument in the band, so we will meet with sort upon sort of orchestral player on the platform.

A Genial Bandsman.—One personal reminiscence may be allowed the writer in this connection. Once she had the honour of conducting a really excellent small band. Among the players was a clever performer on the French Horn from whom she received some valuable hints in the matter of writing for that instrument. He had been a member of the famous Hallé Band in Manchester, and, in addition to excelling on his own favourite, the Horn, he had a very fair notion of most other instruments in the band. Being of a practical turn of mind, he had set himself up in a small business for the sale of orchestral instruments, and was an authority that could be relied upon when a student went to choose, or ask advice upon, any orchestral sound-source whatsoever. Not only was his own work well done, but he was highly respected by all his fellow-players, as much for his quiet thoroughness as for the kindliness with which he was ready to offer help or counsel when needed. After a performance which, although an artistic success, meant a considerable pecuniary loss to the writer, this kindly soul not only offered to return his own fee, but emphasised his appreciation of the work done by presenting her with a beautifully inlaid baton—a kindly token of recognition which she will ever cherish with the friendliest recollection. As touching, then, the geniality of the bandsman, *ab uno disce omnes.*

Presuming that the reader has now a very fair notion of the strings and wood-wind, we proceed to enter the domains of the Brass. A new world is now opening up to us. We are approaching the makers of strong climaxes—those who touch up the "high-lights" of the tone-picture. They may not have as much to do as the strings, or even the wood; but what they do, "tells." The

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have already examined, all kinds of music, of every variety of sentiment, are possible. But, were we to make the picture still more vivid, adding strong touches of colour both to rural and town life, we require to borrow tints that will more or less directly suggest reminiscences of the battle-field and the chase—those two interests, by no means, alas! elevating, that have been linked with the activities of man from barbaric times to the present day.

Early Trumpets and Horns.—Music, the Refiner, the Elevator—in a supreme sense, too, the Leveller—has taken from the savagery of war and the unconfessed but none the less bitter cruelty of the hunt their one touch of harmonious colour, their "calls" to muster. These were respectively intoned on trumpets and horns. In how far these two classes of instrument resemble each other is also of interest. The raucous sound that could be obtained from a conch or an animal's horn must early have attracted the aboriginal man who wished to rally his fellows together. The rams' horns blown before the walls of Jericho are also described in the sacred text as trumpets, and they were blown by the priests.[1] This would appear to indicate that the use of a loud sound, such as could be emitted from a horn, was adopted as a signal in religious worship from early times; a supposition confirmed by the fact that the schofar still figures in present day Jewish ritual. The trumpet was, moreover, in Scripture, an attribute of the Majesty of Jehovah, and the reader will call to mind the many references to this great and awesome sound-source, especially in St. John's Revelation of things yet to be. The "last trump," St. Paul tells us, will raise the dead. An uncommon mystery and solemnity, therefore, attend this type of instrument. Whether we take such references to it in Holy Writ as actual or allegorical, we approach it with no little reverence as a materialised thing associated with that which is unseen.

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[1] Joshua vi. 4.

The Mystery of a Sounding-tube.—The mystery of trumpet and horn, however, rests upon neither supposition nor superstition; it is, in a sense, an inexplicable secret of sound-production. The science of acoustics, it is true, tells us that, in the natural forms of the instrument, the various notes of the so-called "harmonic" series (or Nature's scale) are obtained by different strengths of breath, or blowing. Thus, acousticians inform us that by increasing the pressure on the enclosed

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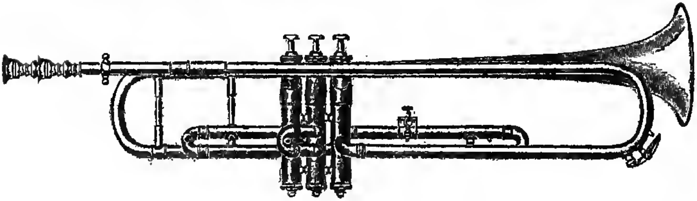
of this mouthpiece has much to do with the quality of tone produced. It differs from the cup-shaped mouthpieces of the trumpet family in being conical. We may, at this point, learn to distinguish between what is known as the Natural and the Valve-horn, the latter well nigh now exclusively used in the modern orchestra. In the former, certain notes were altered in pitch, as already stated, by inserting the hand in the bell of the instrument; hence the old name of "Hand-horn." Several musicians mourn the passing of this "natural" source of orchestral tone; but, as a matter of fact, a good player on the modern valve-controlled horn, who can obtain a complete chromatic series of notes from his "F" instrument, has undoubtedly the advantage. Haydn and Mozart, and indeed most of the earlier masters, wrote solely for the Hand-Horn, and were sparing in their use of the instrument. Now it is the fashion to have the horns continually going, and to expect all kinds of complicated passages from them.

A Romantic Voice.—The dignity and mystery of the horn, nevertheless, remains unchanged. If the hearer has, thus far, got to recognise the distinctive sounds of strings and wood-wind, we will now ask him to hold his ears intent for a certain dreamy, holding-note which, from time to time, seems to weld, as it were, groups of strings and wind instruments together. The soft, sustained voice of the horn, when mingled with the strings, is peculiarly telling. It blends admirably also with most wood-wind instruments, and is easily distinguished, by a little careful listening, from them. Amateurs may well exercise their appreciative faculties in trying to pick out these veiled romantic murmurings from the web of heterogeneous sounds. Most composers have been particularly fond of the horn. Berlioz, in his famous work on "Instrumentation," calls the horn "noble and melancholy," and characterizes it as of "chaste and reserved" voice. The older masters availed themselves mainly of the open (harmonic series) notes of the Natural Horn, now falling into disuse. Later composers, and notably Wagner, have written all sorts of complicated and difficult passages for horns, some of which players find well nigh impracticable. The louder effects of horns, when united with trumpet passages at *tutti* (full band portions), are less easily recognisable; but practice in attentive listening will help to discriminate them. The fine fanfare for four horns in the first act of Rossini's "William Tell" well illustrates *forte* horn-tone.

Some Horn Difficulties.—Ere we leave the horns, a word may be said about the difficulty which most students of orchestration find either in writing for them or in reading horn-parts in score. This arises principally from the fact that the horn is a "transposing" instrument. Having a similar *embouchure* (or breath-force) for each separate note of the harmonic series, the old composers found it convenient to write notes for horns invariably in the key of C, no matter what scale-crook was affixed. Hence, in full-scores, horns will appear to be playing in C, whilst the other instruments are written for in scales with one or more sharps or flats. The explanation of this will be found in the score itself. If the orchestral piece is, say, in D (with two sharps), the horn-staves may be prefaced with the words *Corni in D*, which signifies that the "D" crook is on, and this causes the instrument to sound a minor seventh beneath the written notes. "C" in the notation, in other words, simply means the tonic, or first-note, of the key. For, whereas "C" on the F-Horn sounds "F," "C" on the D-Horn will sound "D." This may, or may not, be clear to the reader. As we have said, both the reading of horn-parts, and the writing of them, is a real crux for the earnest student, the mystery of the instrument extending even to its notation. In a way, this may be the result of a mistaken adherence to an old and no longer necessary custom in penning horn-parts. Yet, as it exists, and as some who have followed us so far may find their curiosity sufficiently awakened to hunt up horn-parts in a full-score, we thought the explanation, though somewhat technical, might be tolerated here.

The "Noble" Trumpet.—The shrill and brilliant Trumpet is of such an assertive nature that few listeners can be deceived when it proclaims its clarion tones over the other instruments. It possesses a shorter tube than the horn, is cylindrical save towards the bell, and will be recognised by its straight lines and oblong curves. It is also more limited in range as in utility than the horn, of which it is the natural treble. Even in the works of modern masters it is mainly restricted to *fortissimo* effects or fanfares. It gives special colour, of course, to any suggestion of military music, a notable instance of the trumpet fanfare being found in Auber's Overture to "Fra Diavolo."

Most theorists speak of the marked tendency of composers, good and bad, to abuse the horn and trumpet, availing only of their blatant, noisy effects. In reality they are best for great climaxes and high-lights of the picture, as we have already intimated. Should these be dragged in too often, their true force deteriorates, and one is conscious only of a din—a too frequent occurrence in modern orchestration. It will have been noticed that we have, in common with the general opinion among musicians, applied certain characteristic traits to certain instruments. When kept in its place, as a sonorous and strenuous "call," the trumpet is essentially a fine and impressive sound-source. Berlioz, who is always picturesque in his terms, asserts for it the quality of nobility. The cornet, which often replaces the trumpet in "scratch-bands," is said, on the contrary, to be "vulgar." He



THE TRUMPET.

From Messrs. Boosey & Co.'s Catalogue.

that hath ears to hear, let him hear and judge accordingly.

The Golden-tinted Brass.—Having arrived at trumpets and horns in our survey, we pause for a while to note how their yellow-golden hues—if so we may fancifully describe them—lend an added glamour to the tone-painting. The "ear-splitting brass," in the hands of skilled players, can often enchant and strongly move as well as startle. Haydn and Mozart have occasionally tried *piano* effects on the trumpets, though players are not always scrupulous in interpreting these masters as they desired. A notable passage may be seen in Haydn's "Creation" (which, being a familiar score, we make no apology for quoting so often) in the solo, "Now Heaven in fullest glory shone." Here the gradual consummation of awakening light in the firmament is charmingly delineated by a *piano* entry of solo trumpet leading to a *forte* for full-band. The brass, indeed, can, if it will, get some really mellow and "sunny" effects. All depends, as we have hinted, upon the player and, pre-eminently, the composer whose directions the former is assumed to carry out conscientiously. The only pity is that the strident rather than the sonorous resources of the sounding brass are most frequently in evidence. This assuredly, to top a crescendo or mark a bold accent, is legitimate. The only protest one might make is that shrillness should not be overdone.

Former Use of Trumpets.—For the closer student of old and modern music, a word might be said about the earlier and later use of trumpets in classical music. Both Handel and Bach, the latter particularly, wrote very high, rapid and florid parts for trumpets, parts which present-day players are never called upon to perform. These high parts, in fact, require a special mouthpiece and a certain method of embouchure to produce them at all; moreover, the player who may have cultivated the habit of high-trumpet sounding will not be able to elicit the lower notes, and *vice versâ.* A great many more trumpet-players were requisitioned for Bach's parts in consequence, including different performers for high and medium range. The utility of these upper parts, however, seems no longer recognised; so, beyond this mention, the matter does not concern us.

It is a curious fact that, the further we go back in the history of the world of music, the more numerous seem to have been the trumpets employed. Possibly they were the only available instruments for signalling and similar purposes, and the strange method of their embouchure must have been discovered from the earliest times. When we make this statement, we do not mean to infer that the trumpet is now in a retrograde state of its existence; on the contrary, the modern valved trumpet is about as satisfactory a sound-source for loud effects as could be desired. Whether the historian Josephus exaggerated somewhat or not, we have it on his statement that in the first Temple there were stored no fewer than 200,000 trumpets—a tremendous force if they were ever played ensemble! Opposite to this, the record of the two trumpets of silver "of a whole piece," which Moses was commanded to construct for the calling together of the people, is worthy of note. Some antiquarians think that these famous silver clarions figure on the Relief of the Arch of Titus at Rome. So do ancient and modern forms of these rallying instruments continue to fill us with wonder and awe. The "mystery" still clings around them, and probably always will; for they are superb magnifiers of human breath, and prophecy assigns to them the clarion-calls of things spiritual in a world yet to come.

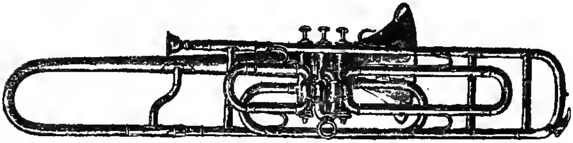
CHAPTER VII

THE TROMBONE FAMILY

The great "slide" trumpet—Trombone tone—Berlioz and the trombone—Famous trombone passages—The canvas complete—Some standard Full Scores—"Don Giovanni"—The "Elijah"—Beethoven's Symphonies.

OF the Trumpet kind, in fact a graver species of trumpet, comes the Trombone, or great trumpet. The trombone differs, however, from the trumpet in many respects. Trombones stand alone amongst wind instruments in being capable of perfect intonation throughout their entire compass. This by reason of the sliding tubes of which they are composed. These slides, being possible of adjustment to every shade of pitch, give as much facility in chromatic, and even enharmonic, passages as may be obtained on the facile "strings" of the orchestra. The mechanism of the trombone slide can easily be followed by the eye. Great cylindrical tubes, arranged oblong fashion, are thrust in and out of each other in full sight of the listener. An elementary knowledge of acoustics will show that the sounding-tube is shortened and lengthened thereby. Under the manipulation of a good player, a trombone can execute tones of every conceivable variation of pitch within its particular compass. Three trombones of different sizes being generally used in the full band, this gives an entire range of more than three octaves. If the old soprano trombone is added to the alto, tenor and bass instruments, a brass quartet may be formed adequately to match the so-called quartet of strings.

The Great "Slide" Trumpet.—The origin of the trombone is lost in obscurity. Some assert that it is the Sackbut of Scripture; but of this we have no certain evidence. It is known that the use of the slide applied to the trumpet is very ancient. The instrument itself, as we now know it, is of comparatively recent introduction into the full orchestra. Even as it is, the trombone seems in a transition stage, and composers themselves are often strangely negligent, or ignorant, in their treatment of this massive sound-source. Diversity also exists in different countries as to kinds of trombones used, France and Italy employing three of the tenor variety, whilst England and Germany prefer the trio—alto, tenor and bass. With these distinctions we need not trouble the reader. The main point is that he should recognise, both by sight and hearing, the three great brass instruments capable of being contracted and extended in a horizontal direction by performers who stand as they play. As the trombones are customarily located on the outskirts of the orchestral crowd, there is little difficulty in picking them out, if only by their size and sonority, from their brazen companions.



TENOR VALVE TROMBONE.
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Trombone Tone.—The intelligent hearer will soon notice that trombone tone differs considerably in loud and soft passages. Composers, misunderstanding its possibilities, are too apt to write only *forte* for this instrument. Players, taking advantage of this tendency, get into the correspondingly bad habit of invariably "blurting" the tone, so that a true *pianissimo* is seldom heard. At a genuine climax, the full trombone tone is rightly described as grand and impressive. But the softer quality of sound, under the management of an expert and musicianly player, has a solemnity, charm and mystery which are well worthy cultivation. The writer once heard a well-known conductor urging the trombonists under his baton to strive for " cream " in their piano passages. When this is successfully achieved, the change from the blurt and blare of the *forte* clang is marvellous, and it would seem as if a new orchestral voice were evolved. Composers have not yet utilised these effects as they might. At the same time, often the players themselves are at fault. Their instrument being of an assertive nature, they perhaps feel they are not doing justice to its stentorian tones if they fail in making a noise! Professor Prout has well said that the trombonist's " hand, lip and brain must work perfectly together." An accurate ear is also needful to obtain absolutely correct intonation in the shortening and lengthening of the slide. The extreme beauty as well as majesty of these grand brass voices, when really well produced, is a musical treat once enjoyed never to be forgotten.

Berlioz and the Trombone.—Berlioz, the great French composer and theorist, has written most graphically of trombone tone in his "Instrumentation." He considers the alto variety "shrill," and, in keeping with the use of his countrymen, he thinks the tenor trombone the best of the group. Yet he advocates the more frequent use in France of the bass trombone—a variety well developed among English and German players. He characterizes the prevalent trombone tone as "majestic and terrible." The *fortissimo* of these instruments he further declares to be "menacing and formidable," instancing the "terrific scale" of three tenor trombones in unison in Gluck's "Chorus of Furies" from "Iphigenia in Tauris." He moreover asserts that the effect of dividing the instruments into harmonies produces results "hoarse, ironical and frightfully joyous." In a simple *forte*, he considers that their best qualities are evolved. It is then that they chant in solemn and impressive accents. He notes the "religious" character that the trombones assume when played *mezzoforte* in their medium compass, as in the choruses of the Priests of Isis in Mozart's opera of "The Magic Flute." Still more quaint is his fanciful description of the emotional effects of the *pianissimo* of these great sounding tubes. He says that their subdued notes are "gloomy, lugubrious, and even hideous!" He goes on further to declare that if the chords are brief, and broken by rests, the result is "like the howl of a fearful monster in ill-suppressed rage." He instances Spontini's Funeral March in "La Vestale," and Beethoven's duet in Act II. of "Fidelio," at the digging of the condemned man's grave.

Famous Trombone Passages.—Allowing for Berlioz's keen sense of the grotesque and his Gallic style of speech, without doubt trombone tone is full of strange changes and surprises of which, perhaps as yet, we have sounded but a few. Modern composers appear to be still more daring in their use of the instrument than in the cases quoted above by the great French musician. Schubert seems to have been particularly fond of these brazen voices, and, in one case—in his "Des Teufels Lustschloss"—he writes a somewhat chromatic passage for the trio by themselves. Again, in one of his Entr'actes from "Rosamunde," he gets some charming sustained harmonies *pianissimo*, rising to a *forte* climax and then quickly sinking once more to *p.p.*, from the alto, tenor and bass trombones. Meanwhile the strings play the haunting and beautiful melody in octaves, the horns and bassoons softly filling in at places. The concert-goer is strongly recommended to hear this exquisite first Entr'acte for himself, and especially to note the flavour (soft) of the trombones when well played. Many quotations of fine entries of trombones might be given. One or two famous passages must, however, here suffice. Mendelssohn's stirring enunciation on the three trombones in the Overture to "Athalie" is familiar to most of us. Then there are the well-known massive melodic uses of the trombones in Wagner's "Tannhäuser" Overture, delivering, in stentorian tones, the theme of the Pilgrim's Chorus, and the equally striking and majestic sweep of trombone tone in the Introduction to Act III. of "Lohengrin." The ear memorizes such passages, carrying away, not only their melody, but the actual *timbre* of the strong, sunny and exultant sound-force of which they are constituted.

The Canvas Complete.—Having obtained familiarity with the trombones, we have now a fair knowledge of the strings, wood and brass which make up the Band. The variety of combination from these different sources is illimitable. If colours of different kinds have been associated with strings and wood-wind instruments, a certain sense of vitality and power seem attributable to the trombones linked with the dazzling sunlight of trumpets and the mysterious murmuring of horns. The sound-picture is so far complete. "High-lights," in the way of accentuation of rhythm and marking of accents, have yet to be added by the percussion instruments; but, for pure musical effects, we can now look upon the painting as a whole, and arrive at an intelligent understanding of its general effect.

Some Standard Full-scores.—At this juncture the earnest musical listener is advised to become acquainted with one or two standard scores. These had better be familiar works, performances of which with full band may easily be heard in any of our important towns. Take, for example, such compositions as Mozart's "Don Giovanni," Mendelssohn's "Elijah," and Beethoven's Symphonies. Here we have examples of opera, oratorio and orchestral sonata which have stood the test of time. Every opera company, choral society and band worthy of the name will include these in their repertoires. So, if the student purchases the works named (now issued in full score at very reasonable prices), opportunities will not be wanting of hearing them frequently rendered.

"Don Giovanni."—In "Don Giovanni" (the Overture already referred to) instances occur on nearly every page of delicate and easily followed contrast of wood-wind and strings. Mozart is more chary of the brass, using these sonorous voices mainly at strong fortes and climaxes, and chiefly employing the open notes of the natural (French) horn for holding notes. The wood-wind he uses with consummate taste in colouring solo work. It will be good practice for the listener to choose particular solos for analysis—say, "Batti, batti"—noting the fundamental groundwork for strings with *obbligato* part for 'cello, and the entries of flutes, oboes, bassoons and horns between the vocal phrases or at the heightening of climaxes, marking that the clarinet is silent in the wood-wind group. The Serenade Aria for the Don, "Deh vieni," wherein strings play *pizzicato* to represent mandoline effects, will be found highly interesting. "Il mio tesoro" may next be examined as an instance of the charming use of strings *con sordini* (with *pizzicato* on the *bassi*), clarinets, bassoons and horns filling in the vocal interstices or lending colour to climaxes. At one of these latter points of light the strings discard their mutes and the *bassi* play with the bow—a striking and beautiful effect. Towards the end of the aria, the gradual reinforcement by the wind instruments intensifies the growing passion and excitement of the singer—a notable piece of tone-painting.

Choruses, and especially the finales to the two acts, will repay study. During the course of the Finale to Act I., the famous Minuet enters, scored for oboe, horn and strings. Mozart works up to his climax marvellously; and a hearing rather than description in words can best depict the exposure and confusion of the Don. The famous Finale to the last Act also baffles description; the very simplicity of means used to paint all kinds of emotion and excitement adding wonder to the achievement. It will be noted that the full band throughout rarely introduces trumpets and drums. The trombones complete the picture at the entrance of the ghostly statue of the Commandant. Berlioz might well have described the sensation as one of "mute horror," when these great brazen tubes intone and sustain *piano*, whilst the ghastly visitor invites the unrepentant sinner to his awful doom.

The "Elijah."—Mendelssohn's "Elijah," although a work of different character to "Don Giovanni," yet corresponds to it in clearness and beautiful balance of tone-colour. Both are scored for what is known as the Haydn-Mozart orchestra of strings, wood-wind, trumpets and drums, the trombones being sparingly used, whilst full brass and percussion are reserved for climaxes and *forte* passages. The solemn opening chords are for brass instruments only, the trombones lending majesty to the sound. The groundwork of strings plays an important part in the Overture, the gradual augmentation of tone leading up to a grand *tutti* being achieved by additions from the wind forces. The impressive entries of the organ in the first chorus are worthy of note. Chorus-work throughout is, indeed, full of interest, the strings taking their full share and wood-wind instruments frequently supplementing the voice parts. Of particular instruments, the plaintive oboe makes itself heard in the widow's solo; and the Prophet's announcements are introduced by the brass, whilst his famous solos, "Lord God of Abraham" and "It is enough," are delightfully coloured by the 'cello. Trombones play a more notable part throughout Mendelssohn's work than in the Mozart score, yet they are never overdone. "Hear ye, Israel" is most exquisitely scored for strings, wood-wind, trumpets and horns, the voice being supplemented rather than overwhelmed by the wind instruments. The massed treatment of strings is well exemplified in the grand choruses, "Thanks be to God" and that highly dramatic number "Behold, God the Lord passeth by." In the latter the kettle-drums, which we have to notice later, play a prominent part. The delicious passages on violins, introduced by a roll on the drums and finally silvered by the flute, wherein the chorus announce that, "In that still voice onward came the Lord," long haunt the memory of those who have heard this portion well rendered by band. A thousand and one other beauties might be mentioned in this inspired score; but enough has been said to guide the listener to a preliminary acquaintance with its rare symmetry and musicianship.

Beethoven's Symphonies.—Volumes might be filled with descriptions of the genius of Beethoven as displayed in the scoring of his immortal Nine Symphonies. But, as ample literature exists on this topic in the shape of analytical programmes and other students' aids to the understanding of these masterpieces, we must content ourselves with drawing attention to their marvellous design, contrast and balance of tone, and vast variety of instrumental devices and effects. The hearer is recommended to attend a series of concerts at which they are rendered, if possible in their order, following the performances with the help of the programmes referred to, which are usually a feature of all well-organized orchestral undertakings. Listeners are further advised to purchase scores, say, of Symphony No. 1 (as being easy for a beginner in the study of orchestration to follow and understand), the Pastoral Symphony (No 6), and the great Choral Symphony (No 9) with its addition of vocal forces and notable scoring of the Scherzo. In a short time it is possible to get familiar with the position of the different instruments and groups of instruments when written in full-score, nor would the study be found either dry or of a complicated nature.

We have commended an examination of full scores before our band knowledge is quite thorough, as the chapters which follow on percussion instruments, the harp and the organ can perhaps be more fully appreciated when the fundamental elements of the band have been impressed upon our minds. This is our apology for introducing the subject here. Later on we hope to return to this topic of score study and analysis; but for the present the reader will be left to gather a general impression of a whole rather than be confused with details, such as the introduction of the obsolete Ophicleide in the "Elijah," or the tuning of kettle-drums in octaves in the "Choral Symphony." A broad knowledge of the picture being obtained, we proceed now to a new element in the canvas, and, with an examination of instruments of percussion, we enter on the borderland of that sound-country which lies between music and noise.

CHAPTER VIII

BARBARISM AND RHYTHM

The art of keeping time—Primitive rhythmic senses—The Drum—Composers' uses of the Kettle-drum—Cymbals—Castanets, Bells, etc

RHYTHM—the sense of measure, time and order generally—may seem far removed from Barbarism. Yet, when we want emphatic or strenuous markings of the accent or loudness of musical sound in the orchestra, we employ those primitive sources of noise and barbaric music (so-called), the big drum and the cymbals. A philosopher might draw the inference that, in all militant and assertive undertakings, the louder we strike and bang, the more effect do we produce! If so, there is an excuse for the window-breaking suffragist, were not the clang of percussion instruments in the band wholly innocent of injury to person or property. Anyway, it is difficult wholly to divorce the savage instinct from amongst us; and what if, as Shakespeare so warily says, there is a "soul of goodness in things evil," could men but perseveringly pick it out? Once again we realise how refining is the process of music, when applied scientifically, as in the orchestra, to Noise. Some of the noblest and most inspiring passages that have ever been written for full band would sound but tame and unimposing were the drums left out. On the other hand, great composers use instruments of percussion but sparingly, and always with the utmost discretion.

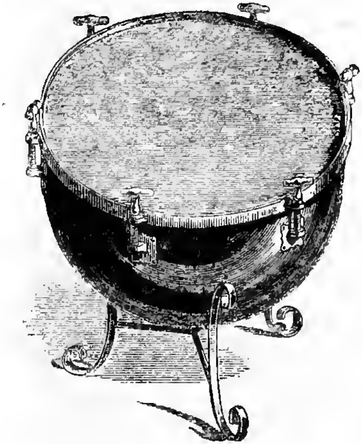
The Art of Keeping Time.—Before we come to a minute examination of this highly assertive and literally "striking" family of sound-sources, a little consideration of Rhythm, and what it really means, may not be out of place. Mozart has aptly remarked that "the most difficult thing, the most important thing, and the most necessary thing to acquire in all music study is Time." Now, the word "time" is capable of both wide and narrow definition. As applied to Music, it is understood to refer to the pace at which a piece is taken. To slacken, to hurry, as well as "to keep time" are familiar phrases with the student. But does he always realise their significance?

Marches, dance-music, and most well-marked and rhythmic musical compositions need to be played in strict time. The technicalities of a musical performance also often signify more than a slavish attention to mere rate of going. The neat marking of the accent, the clean sweep of phrases, the accurate balance of melodic and chordal passages, are matters that count in the marking of rhythm, and, hence, in the maintenance of Musical Time in its broadest sense. Very few even accomplished players have got an absolute sense of time. This may easily be proved by getting a good performer to play a piece, which he knows by heart, to the accompaniment of the metronome. None will be so surprised as the musician himself, should he not have been habituated to practise with the metronome, at the "liberties" which he will find he has unconsciously taken with the speed of his memorized piece. Licences of accelerating and decreasing the pace are plentiful enough in all conscience; a concession to the rise and fall of the emotions. Also we have what is called the privilege of *tempo rubato* ("robbed" time) in the interpretation of Chopin, Schumann and others. But the fact remains that the tendency either to drag or hurry is inherent in human as well as musical perceptions. From this our philosophic reader may also draw his conclusions.

Primitive Rhythmic Senses.—Primitive peoples recognised the need of something like the measured tread of men on the march, or the rat-tat of tambours and drums of all kinds to mark pace and hold performers together. A glance through any museum will show the observer that the majority of barbaric musical instruments are of the "tam-tam" kind. They are sounded with a blow and they emit a noise. One of the most civilised of ancient nations, the Egyptians, marked time by hand-clapping. Chinese percussion instruments of all sorts far outnumber stringed or wind sound-sources among the Celestials. It seems, indeed, beyond question that the marking of rhythm by an indefinite and loud sound is a primitive instinct, and that it falls into disuse with culture. The child exhibits this tendency in his play; the man tries to minimise noise at his work. The dropping of much that is noisy and blatant might, therefore, be looked upon, in art, as a sign of progress, despite augmentation in orchestras of to-day. Yet the great bangs have their uses, if they are moderately and judiciously applied. They very probably bridge over the borderland between music and noise, as we shall presently see in the case of the orchestral Kettle-drum.

The Drum.—The principle upon which the Drum gives forth a sound is wholly different from that which governs sound-production in the case of stringed as well as wind instruments. The idea of a parchment stretched over a cavity giving forth a sound when struck, can be illustrated in the simplest way by tapping with the finger on the tense paper cover of an unopened jam-pot. This hollow indefinite sound is amplified when the stretched material is made of skin which can resist the hardest blows. Drums of all nations are of innumerable varieties, those known as the Bass (or Big) Drum and the Side, or Military Drum, being familiar features of the open-air band. The well-known tambourine is a species of drum in which the resounding air-cavity is simply bound by the rim of the instrument. Corder, in his treatise on "The Orchestra," points out aptly that the unwieldy cauldron-shapes of kettle-drums might be modified without prejudice to the sounds produced.

This brings us to a closer consideration of the Kettle-drum, the most valuable instrument of the drum family. These are usually found in pairs in the orchestra, a large and a small one, three being the rule rather than the exception for the performance of most modern works. The kettle-drum may be described as a hemisphere of brass or copper over which a parchment or skin is stretched. This is called the "head" of the drum, and its tension can be tightened or loosened at will by means of screws attached to the rim of the metallic body. Drumsticks are made with



THE KETTLE-DRUM.

From Prout's "Orchestra."

felt heads, and they are two in number to each drum. Now and then special effects are obtained by the use of wooden drumsticks, the sponge-head being also in requisition for particular passages. By the adjusting of the screws mentioned, the kettle-drum can be made to emit a definite note. Each drum has the range of about a fifth, but it can only sound one note of its compass at a time. That is to say, the screws have to be changed for each separate note, a process for which the composer has to allow an interval. As the tuning of the drums is by no means easy and requires a very accurate ear, it is customary to have the pair tuned to the tonic or dominant (first and fifth note) of a piece, thus enabling them to sound in harmony with the chief chords of the movement. Modern vagaries of modulation, or key-change, necessitate many varied tunings; but upon these we need not enter here.

Composers' Uses of the Kettle-drum.—Beethoven, tuning his kettle-drums in octaves in the Scherzo of the Ninth Symphony, got some charming effects from them. The listener is advised to be on the alert for this well-known rat-tat-tat on the *timpani* in the movement mentioned. Berlioz was a great enthusiast in regard to the kettle-drums. He scored, in his "Requiem," for no fewer than eight pairs of drums with ten players. It requires, however, a very highly practised ear to pick out such minute drum *nuances* as are obtained from such a combination. The rat-tat-tat-tat of the drums has been much extended in modern times. The drumstick head being often made of rubber and wood, both soft and loud effects are possible under the manipulation of an accomplished player. The "roll" of the drum requires much practice to execute cleverly and effectively. It is no doubt familiar in sound to most hearers. A famous roll, of inordinate length indeed, occurs in the Prelude to Wagner's "Siegfried." It is said to tax the player's endurance to the utmost. At first sight it might appear easy to rattle the drumsticks on the parchment. The reverse is the case, as an experiment will soon verify.

Kettle-drums are the great delineators of grumblings, murmurings and thunderings in the orchestra. They are, if one may say it, elemental after a fashion. All sorts of weird results can be drawn forth from them, and of this modern composers are not loth to avail themselves. The student, who presumes to write for the drums, has, however, to proceed warily. For "too much" of the drum soon palls. A certain fascination, nevertheless, surrounds them; and, from the fact that they (the Kettle-drums) emit a genuine musical note rather than an indefinite noise, they have, as we have already inferred, linked things barbaric with things civilised, and given a very fair reason for their inclusion among *musical* instruments proper. It goes without saying that the drummer must be a good timist. He needs also the knack of being able to count any number of silent bars between his various entries. Most military men learn to do this with amazing precision and accuracy. The writer remembers an ex-soldier who was an expert performer on the kettle-drums. He had an absolute sense of punctuality, accuracy and order. He prided himself that he had never missed coming in at a beat or failed to "hit on" the accent. He was also an able copyist of band-parts, his work being wholly reliable for its faithful accuracy. So the drummer is by no means a negligible quantity in the band. On the contrary, along with the trumpets, he serves to emphasise climaxes, and is generally to be found, like a good fighter, "in the middle of every row."

Cymbals.—The "crash" of the Cymbals is a familiar if not always welcome effect in ultra-modern orchestration. Here, in truth, we have a barbaric relic; yet even this may be tamed to serve the loftiest of purposes; the topping of a great pinnacle in the mountain of glorified sound. Cymbals are made of resonant metal, and are circular in shape with an attached strap by which they can be held. They sound best when clanged together in the hands; but one of them is more often, in orchestras, fastened to the big drum, the clashing process being accompanied by a bang from the player on his parchment drum-head. The utilization of cymbals, the triangle and castanets in the band is mainly confined to special effects. As in the case of drums, this high colour should never be overdone. A well-known instance of the entrance of the cymbals is to be found in Wagner's "Tannhäuser" Overture, where the composer depicts the Venus music. Here they are heard to advantage, being separate from a clang on the bass-drum.

Castanets, Bells, etc.—The Castanets, clicking pieces of wood worn attached to the hands, are associated with gipsy, and especially Spanish and Moorish music. Readers will recall their effective use in Carmen's song, Act II. of Bizet's popular opera. The Tambourine supplies a homely instance of lighter percussion effects when linked with dance and song. We think of Miriam's timbrel when looking upon one of these Christy-Minstrel instruments, and types of these hand-drums have no doubt been familiar to people of all times and races. It does not often figure in the classical orchestra, yet Weber has effectively used it in his opera of "Precioso." It is also frequently to be met with as an adjunct to the ballet, where it serves to mark the accent in certain kinds of rhythmic dance music. The attached bells, or jingles, add to the more or less pleasant "noise" which the parchment makes when struck. Barbarism and rhythm are combined perhaps herein with the most guileless art, that of the dancer who sings as she trips on "light fantastic toe." Bells, utilised, as in Sullivan's "Golden Legend" and Tschaikowsky's Overture "1812," scarcely need more than this passing mention, as they easily and unmistakably make themselves heard. Coming to the Carillons, their playing is, however, an important open-air art on the Continent, and especially in Belgium. The orchestral carillon, or Glockenspiel, produces quite a musical and often ethereal effect in the full-band. Mozart utilized an instrument of this kind in his "Magic Flute," in which steel bars were substituted for small bells. The Gong, used for weird effects, figures in Meyerbeer's "Robert le Diable" and in Dvořák's "Spectre's Bride."

We have now pretty well exhausted the "noisy" percussion group. They have their place in the picture, undoubtedly; and, when appropriately introduced and skilfully manipulated, they give good reason for their inclusion in the *tout ensemble*. Performers on them, at least, learn the sterling virtues of patient attention. For, with the drums and other similar percussion sources, it is a case of long waiting for entries and steady counting of silent bars.

Our ordinary orchestral force is now enumerated. Once more we repeat the combination: strings, wind and percussion. Around these, whether united in groups or taken singly, the gifted composer can awake a bewildering and illimitable variety of sounds grave and gay, soothing and astounding. Once more the similes of the paint-box and palette, as well as the painter, present themselves to our comprehension, and we begin to understand the hidden links which bind colour and sound together. Appreciable, in varying degrees, to ear and mind, the voices of the full orchestra can arouse within us every type of human emotion. For the completion of the canvas there is need that we should add two sound-sources which, although aptly lending themselves to mingle with the full clang of the band, stand alone in being capable of producing complete harmonic sound in themselves. We refer to the Harp and the Organ, instruments which we proceed to examine in the following chapters.

CHAPTER IX

THE ROMANCE OF THE HARP

Qualities of the Harp—Modern uses of harp—Critics of the harp—A new orchestral tint—The harp of the ancient Gael—An old legend of the harp—Ireland and the harp.

THE glamour of a remote antiquity and a romantic history surrounds the Harp. From time immemorial it has been the companion of princes and bards; it has figured at the festive boards of the highest civilization in the past; it is found equally in the hands of the priest of old and the lover of mediæval days. Whether we explore the sculptured remains of ancient Egypt or turn to the Psalms of King David, or—in a still less-known region—unearth the legends of the adventurous Keltic peoples, we find the "harp of many strings" in one shape or other. We can even, if the antiquarian spirit possesses us, trace its history, step by step, from the first rude stringing of resonant fibres over a sounding frame or shell, to the graceful and queenly modern instrument, resplendent in gilt frame and responsive strings, which has reached its culmination in the improvements of the house of Erard. It needs not, however, to do more than remind the reader that something of the same type of instrument served, in the hands of a stripling, to drive the evil spirit from King Saul; under the fingers of the minstrel Blondin, to rescue another King from his captivity; and, in Biblical literature, the harp is described as the main source used to lead, in the future, the praises of angels and the redeemed in the worship of the King of Kings. If ever anything material has an extraordinary career—past, present, and yet to come—it is assuredly the instrument which we commonly designate THE HARP.

Qualities of the Harp.—The principle of the harp may be briefly described as the stretched string multiplied. We have seen four strings of similar length but varying quality in the violin family stretched over a resonant body and played with a bow. In the harp we will find an ever-increasing series of strings of different lengths and thickness held in position by a triangularshaped frame and played with the fingers. The sound of the harp has been qualified as "liquid" in distinction to the "strident" tone of the orchestral strings. This is accounted for by the manner in which each species of instrument is struck—*i.e.* either by finger or bow. So this distinction is worthy of note from the start. The tone of the harp lacks sustained power. Yet it has a certain carrying quality, and its plucked notes make themselves agreeably heard through a mass of stringed and wind instruments, especially when it is played *in arpeggio* (one note of a chord heard in succession after another) in the upper octaves. As a solo instrument, the harp, from its inherent quality of tone, is unsatisfactory. It needed the final step in its evolution to place it *within* a resonant case and strike the strings with levers touched or struck by the fingers. This is what has taken place in the pianoforte, which is really a harp enclosed in a recumbent position in a sounding-box or frame. The pianoforte has, indeed, taken the place that the harp once occupied in the home and in festive circles. If celestial harps will display a further improvement on the modern pianoforte mechanism, then we may look forward, in another world, to see and hear still greater wonders from the stretched string over, or within, a sounding-board, the manipulation being possibly still controlled, either directly or indirectly, by the fingers. Some of our more matter-of-fact readers may laugh at the fantasy, but the time for a destructive criticism of it has not yet arrived, especially seeing that even things material may be reduced to invisible and wonder-working "electrons."

Modern uses of Harp.—In the orchestra, and especially in combination, harps are ever coming more and more into notoriety. They are, strange to say, of comparative recent introduction into the full-band, although bands of harps were not infrequent among ancient Egyptians and Hebrews, the harp figuring largely in the religious services of both venerable races. Of modern composers, Gounod has written most effectively for the orchestral harp in his "Faust," "Redemption," "Mors et Vita," and other works. Wagner treats the harp, as he does several other orchestral instruments, as if all kinds of passages were possible for it. As a matter of fact, an intimate knowledge of the harp, and even some acquaintance with methods of harp-playing, are requisite if a composer really desires to bring out the inherent beauties of this delicate and truly delicious sound-source. Well-played arpeggios on the harp, sounding over sustained soft chords on strings, with perhaps a murmuring note here and there on the horn, want only to be heard to be fully appreciated as one of the most ethereal effects in orchestral music. Etherealism is, indeed, an attribute of the soft plucked notes emitted from harp-strings. So we continually find this instrument associated with heavenly and angelic music of all kinds, the "harmonics" on it in particular being suggestive of subtle, celestial and invisible sounds such as we might imagine beings of another sphere would produce in contrast to the more sharply defined or jarring notes of earth.

Critics of the Harp.—We are prepared, at this point, for a slight sneer on the part of those sensible people who relegate a belief in fairies and ghosts—as well as higher unseen entities—to children and fanatics. Also some composers and conductors declare that they dislike the harp for its want of sonority and its tendency to go out of tune. Continuous attention to the tuning is, no doubt, irksome at first to the harpist; but a skilled player soon contrives not only to adjust strings with dazzling speed, but also to screw them up so deftly that going out of tune in a movement is considerably minimised. In this matter the pianoforte again has the advantage over the harp, for its tuning can be made to stand for a longer period of time. Also, in regard to the objections brought against harp-tone, it should be remembered that, to many ears, the scraping of violins is equally if not much more reprehensible. The violin indeed, unless remarkably well played, is an instrument of torture to sensitive ears, and it is indubitably in its best place *en masse* in the orchestra. We must, of course, except a genuine Strad in the hands, say, of a Sarasate or a Kubelik. But, even so, the preference for flute-like in distinction to reedy tones is all a matter of individual taste. In the full-band we have infinite varieties of the soft and strident, of the mellow and the blatant. The charm is in the judicious mixture of all. So we will ask those who despise the harp to have patience with us now, if, as in former chapters we emphasised the higher qualities of louder and more assertive voices, we here give no stinted praise to that "still small voice" which, nevertheless, makes itself more effectively heard than most other sound-sources.

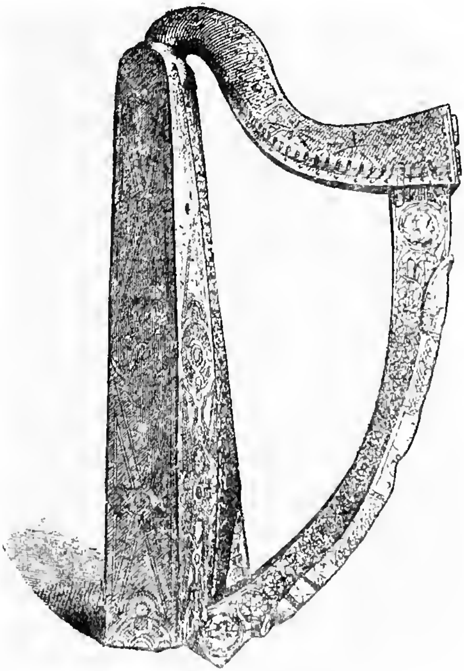
A New Orchestral Tint.—Once again the simile of colour rises in the mind. Some of us like blue, others yellow; others, again, admire red, whilst still others will have naught but the art-shades of rose-pink, moss-green, or some equally indefinite and fanciful hue. *Chacun à son goût.* As men seem constituted to differ in religion and politics, so they have a right to diverse tastes in food, in habits, as well as in thought and speech. To relegate the world and the people in it to one dead level would be contrary to the clear design of the Creator who has given us all kinds of substances, shades and modes of expression in Mother Nature herself. So, in the orchestra, as we proceed to explore its secrets, we shall find all sorts and conditions of musical sound, allowing for all species and kinds of musical effects, amply sufficient for the satisfaction of all descriptions and phases of human emotion. The marvel grows upon us as we continue our research. With the bird-like flute we have met the strenuous-toned violin; with the mysterious-voiced horn we have linked the noble and sonorous trumpet. We have made the acquaintance of instruments that suggest town and country influences, that whisper of the chase and of the gruesome battle-field. We have gone to savagery for our instruments of percussion, and seen how even the thunder of the drum can be tamed to serve a musical use. The fairy-like harp now adds her tender and never too assertive tones to the full clang. The iridescent hues of Venetian glass might fancifully depict the "colour" of harp tones. We pause to listen to such sounds as Orpheus perhaps once drew from his hand-harp when he charmed the lord of the shades to release Euridice from the gloomy shores of the Unknown. It takes all sorts surely to make a world. In the World of Tones we may trace the minds of men themselves, beautified under the silvery veil of Music, the Maid Divine.

The Harp of the Ancient Gael.—As, in this chapter, we have allowed ourselves to dwell upon the ethereal and romantic qualities of the harp, we may be pardoned a patriot's pride which would direct attention to the fact that, from a remote period of history, the national emblem of Ireland has been the harp. The poet Moore and others have celebrated this fact in more than one well-known lyric. But, if we would explore the romance of the Irish harp, we will need to retrace centuries and go back to the far-off time when the

Keltic tribes travelled westward "to the setting sun," taking with them much that was marvellous in the wisdom of the East. Among artistic pursuits that occupied their leisure moments and diversified their festive displays, none was so assiduously cultivated or so intensely enjoyed by them as Music. Whether the ancient Gael obtained knowledge and proficiency in this art from contact with Egyptian or Hebrew sources, or from a still more remote antiquity, it is impossible to say. To whatever he gained, with the imaginative inventiveness of his kind, the Gael seems to have added something of his own. Thus we find that the polychord harp of Egypt, which was wanting in a fore-pillar, acquired that necessary appendage among the Keltic bards. A knowledge of Harmony, consequent upon skill in playing on a thirty-stringed harp, was also an early achievement of the Bardic Schools. Part-singing, it has been shown, was practised in the monastic establishment at Bangor, north of Ireland, in the early centuries of the Christian era, the missionaries of that community being preceptors of this art to the Northumbrians long before the appearance of the first annotated part-song, "Sumer is a-cumin in." Wales, in King Stephen's time, benefited by Irish harp teachers. The harp was, according to the authority of Vincentio Galilei, introduced into Italy from Ireland about Dante's time. A famous Irish harp of thirty strings, that popularly, if perhaps not accurately, believed to have belonged to Brian Boru, is a fair model of the "ecclesiastical" harp of the fourteenth century. The stringless frame may still be seen in the Library of Trinity College, Dublin.

An Old Legend of the Harp.—The story of David's harp-playing and the charm it exercised upon the diseased spirit of Saul finds a parallel in Gaelic folk-lore. A very ancient Gaelic legend contains an account of how the Daghda, the Arch-Druid, once had his magic harp stolen from him by a band of pirates. Following the track of the marauders with but two companions, the intrepid high-priest won back his treasure by a force greater than brute violence. Gaining admission to the camp of the sea-robbers, the seer noticed that his harp, mute to all touches save his own, was hanging on the wall. He bade it come to him and respond to the art of which he was a past-master. The harp, it is said, came at his call, and forthwith he played for his foes "the three modes which give distinction to a harper."

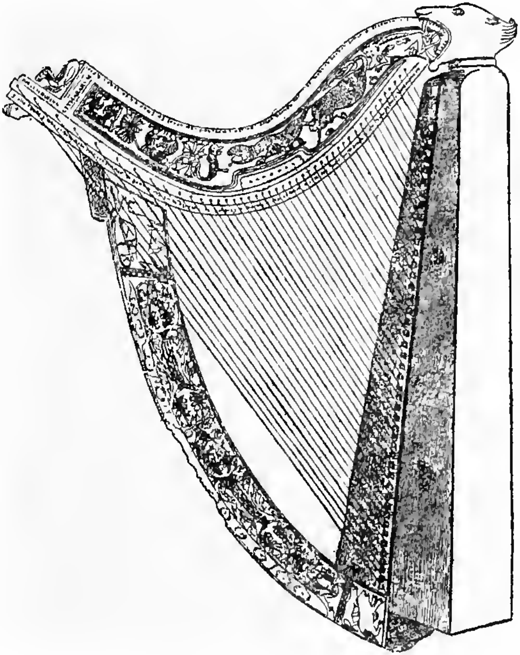
These were the Mode of Tears, the Mode of Laughter, and the Mode of Sleep. The pirates listened dumfounded, and sought neither to interrupt nor intimidate the fearless old man who



HARP OF BRIAN BORU
(Famous Gaelic Harp, fourteenth-century model).

swayed 'neath his fingers the skill of the ages. He played for them the plaintive *Goltree*, which, it is said, made their women shed tears. Then he changed to the *Gentree*, or playful mode, which aroused laughter and merriment. Finally, he gave them the *Soontree*, or soothing music, which caused a deep sleep to fall upon the entire host, and thus enabled the Daghda and his escort to escape with their restored property.

Ireland and the Harp.—Apart from legendary imagination, we see herein, in an epoch many centuries before Christ, evidence of a belief in the emotional powers of harp-music, especially when played with skill and authority. That music can tame the savage breast has long been an embodied truth in the mythology of more than one high-placed ancient nation of antiquity, the tale of Orpheus and his lute being another case in point. The Pied Piper of Hamelin represents still one more phase of the same story. The Daghda's harp-playing stands, however, unique among such records in that it is more specific of the variety of emotions produced. Gaelic (Irish) literature teems with harp references of a similar kind in which the player was able, by his art, to alleviate pain and sorrow and, eventually, to accomplish whatever was the aim of his musical enchantments. The tale of the Daghda may appear to many little else than one of the fairy-stories of a remarkable and highly imaginative people. But the actual art of the Daghda survived in the native



THE DALWAY HARP
(Made for Fitzgerald of Cloyne, 1621).

musical art of Ireland until the opening of the nineteenth century, when the last of the old Gaelic harpers, Denis Hempson, passed away at the great age of 112. Concerning him, Bunting, in his interesting "Collections" of Irish Music, has much to say. The old man, he thought, represented the traditions of a music which had long survived the memory and even the names of its composers. Bunting succeeded, with commendable skill and fervour, in annotating some hundreds of these old harp-tunes and preludes, several of the former subsequently obtaining world-wide celebrity when linked to the lyrics of Moore. Old Hempson had a most original method of harp-playing, and his musical knowledge and vocabulary was wholly distinct from continental systems of the day. Mainly through the harpers, it is now ascertained, Irish folk-music, which totals thousands of tunes, was preserved through many centuries to inspire, it is to be hoped, the formation of a unique National Music School of the future. So, aptly indeed, may the Emerald Isle be proud of her Harp emblem, which links her name, as no other country is linked, with a musical instrument as well as a music which is associated with the worship of the Highest.

Photo by Albert Smith, St. Helier, Jersey.

MADAME ALICE BARNBY
(Harpist, Carl Rosa Opera Company).

An attempt was made some years ago to revive an interest in the small hand-harp of thirty strings; but the same difficulties which attend the larger (concert) harp seem also to be associated with this sound-source. The piano, as we have already inferred, supplies the want, which all harps possess, of more permanency in the tuning, greater sonority of tone being procured by enclosing the vibrating strings in a resonant case. In the orchestra, then, the harp shines rather than as a solo instrument, though the excellence of performers like Ap-Thomas and others must not be overlooked. It is a particularly graceful instrument for a lady player (see illustration of Madame Alice Barnby, Harpist to Carl Rosa Opera Company). Among the varied voices of the full-band, whether crisp chords or arpeggios are played upon it, the notes of the harp stand forth with a charm and character all their own. We advise our readers to make a point of listening for these harp sounds whenever occasion offers. The *pizzicato* of the violins is a somewhat kindred effect. But the liquidity of the longer plucked string stands by itself, and has an inherent beauty wholly its own.

CHAPTER X

A MONARCH AMONG INSTRUMENTS

Construction of the Organ—Early organs—Playing with the feet—Organ and orchestra—Rightful uses of the organ—"Doctors differ"—Combinations "with orchestra"—Orchestral music "arranged" for organ—Idiosyncrasies of the organ.

THE Organ has been called the King of Instruments. That the title is well deserved few will dispute. Not only does this majestic sound-source claim a pre-eminence on its own account as the acknowledged leader of sacred music, but it combines the characteristics of many instruments, and is, in fact, an orchestra in itself. Within the case of a well-built modern organ are pipes representing flute and reed tones of all kinds. Brass, and even percussion effects, find a fair imitation in its louder-voiced "ranks" of pipes, whilst the *vox humana*, if of good quality, suggests, as its name implies, the human voice. We will, later, refer again to these organ "imitations" and the criticism to which they have been subjected. Apart from them altogether there is the "organ-tone" proper—the rich, velvety voice of the diapasons—which is found on no other instrument. The pedal organ also gives a scale of over two octaves, the distinctive quality of which cannot be classed apart from itself. Add to these matters the antiquity of this noble instrument, which, with its vast variety of tone and contrast of sound-colour, its sonority and the grandeur of its "full" effects, well merit for it the term, Monarch of Music.

Construction of the Organ.—The principle upon which organ construction rests is the vibratory column of air in open and closed pipes or tubes. The note emitted differs in pitch as in quality according to the length and nature of the sounding-pipe. Thus, if a particular pipe sounds, say, middle C, a similar pipe of half the length will sound the octave above C, and so on. Again, there are the various "flue" and "reed" pipes, giving sounds of corresponding *timbre*, or colour. Moreover, a study of acoustics shows us that "stopped" pipes give sounds an octave below the open pipe of the same length—a fact that has been utilized in economising space that would otherwise be taken up by pipes of sixteen and thirty-two feet.

Most organs worthy of the name have at least two manuals (or hand keyboards) and pedals—the latter a keyboard for the feet. Each of these is, in reality, a separate organ, and has characteristics of its own. Thus, on the "Great" organ are found all the chief "ground," or foundation stops of the instrument. On the "Swell" are the principal reeds with the lighter class of "diapason" stop. On the "Choir" will, as a rule, be located the solo and "fancy" stops; though, not infrequently, these are also found of a certain variety on the Swell keyboard. The latter takes its name from the contrivance known as the "swell-shutter," by opening and shutting which with the right foot an increase and diminution of tone may be obtained.

Further details might confuse the reader. Some technical acquaintance with the organ is the only guide to an understanding of its many seeming complexities. Here it may be mentioned that it is a popular fallacy to imagine that the instrument, being immense in size and capable of producing so powerful a tone, is difficult to play. The touch of most modern instruments with improved " pneumatic-action " (whether tubular or electric), is as light as could be desired, even when played "full." The all-round activity required in manipulating stops or "composition-pistons," the rapid change from keyboard to keyboard, and especially the leg-movements in pedal playing, are all highly conducive to keeping the human frame lithe and energetic. Organ playing is, in truth, as beneficial a form of physical exercise as the health-expert could desire.

Early Organs.—To trace the history of the organ—from the first rude bench of pipes of different lengths to the latest model with three to five manuals and full list of accessories—would fill a volume. But such a survey is without the scope of this little work. Among famous antique organs was that of Ctesibius, the Egyptian, who flourished some two hundred years B.C. In this curious instrument modern water-pressure of the bellows was anticipated in a hydraulic apparatus, which served to prevent the overblowing of the instrument—a defect which often attended the pneumatic, or bellows-blown organs. The organ seems to have come into use in churches early in the Christian era. These primitive instruments were of rude construction, required many bellows and blowers to work them, and some of the keyboards could only be sounded by striking the notes with clenched fist—hence the term "pulsator," as applied to the robust-handed organists of those days! The modern instrument began to make its appearance in a more perfected form about the beginning of the sixteenth century, and one Bernardo Tedesco, a German musician residing at Venice, is said to have invented the Pedal Board.

Playing with the Feet.—To the uninitiated it may seem extraordinary that one can learn to play with the feet. But the feat (if we may be pardoned so terrible a pun!) can be accomplished after less practice than might be imagined. The pedal keys are raised from the ground, and they contain the chromatic series of sharps, flats and naturals, as on the ordinary pianoforte keyboard. Toe, heel and sole of boot or shoe can each be utilized in pressing these levers down when a particular note is required. With facility of execution, which soon comes with practice, rapid scale and other passages can be performed upon them. Indeed the organist plays with his feet as a blind man plays with his hands, and the marvel really takes place when two hands and two feet are going simultaneously with intelligence and skill,

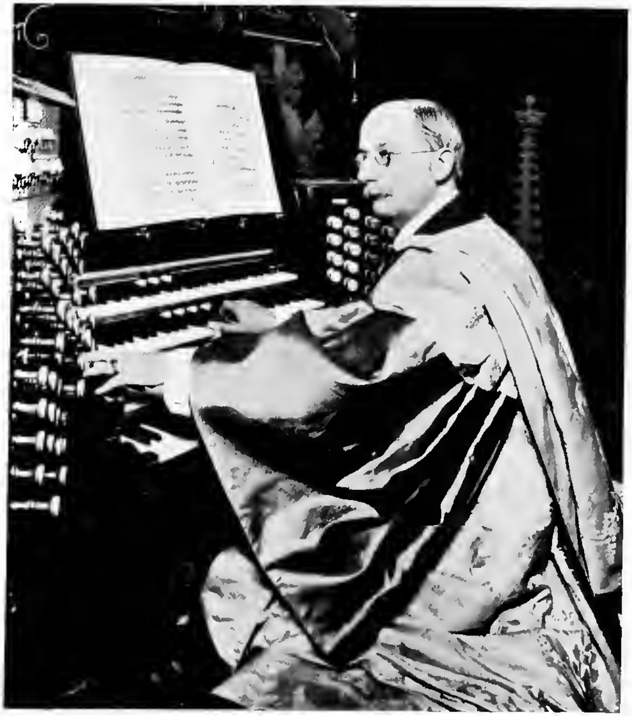


Photo by Campbell Gray, Edgware Road, W.

SIR FREDERICK BRIDGE AT WESTMINSTER ORGAN.

backed by the mind which thinks and the heart which feels. The combined actions may even become automatic after a fashion, as when an organist, using his hands, feet, eyes, ears and musical intelligence, carries on an animated conversation either with his choir or some friend standing at his side. It is wonderful indeed what practice can accomplish! How little the casual listener realises what a complexity of forces and emotions are at the back of even the simplest choral effectively played on the organ! Still more may we marvel at the skill and energies displayed on our most famous organs by eminent and distinguished performers. (See portrait of Sir Frederick Bridge seated at the organ in Westminster Abbey.)

Organ and Orchestra.—At this point it is only fair to inform the reader that most musicians oppose the union of organ with orchestra, and assert that one takes from the dignity of the other. They are, it is alleged, two great separate sound-sources which can never really mingle. One theorist goes so far as to assert that the "dead" tones of the organ blend disagreeably with the wood-wind of the band, which, *per contra*, is assumed to be alive. Undoubtedly much may be said about the need for a judicious use of "contrast" in the introduction of similar tone-colour; but the vibrating tone of the full-organ can never be called "dead." Also a single passage on the diapasons can be distinguised through any mass of sound. The organ, in fact, has, more than any other known instrument, the facility of making itself heard above every other voice. Some really sublime uses of the organ in connection with the orchestra may be found in Mendelssohn's oratorios, and especially in the "Lobgesang." The late Sir Arthur Sullivan drew a charming and never-to-be-forgotten contrast between these two gigantic sound-forces in the "Golden Legend." Music lovers are advised to listen for the entry of the organ in these two works, and estimate for themselves the majesty of a monarch who is always very much alive.

Rightful Uses of the Organ.—Unquestionably the organ is heard to best advantage in some grand old cathedral, leading the "full-voiced choir," while the soft boom of its pedal bourdons and the rich, full tone of its diapasons re-echo through lofty columns and deep recesses, the great waves of solemn sound reverberating against "storied windows" shedding their "dim religious light." Milton, the poet-musician, must well have known and felt what his words describe so graphically; yet in his day the church-organ was very far from what it is at present. Both Handel and J. S. Bach were great organists, and their chief works were practically written for accompaniment on the organ, *with the addition of* such orchestral force as was utilized in their times. To assume, however, that, owing to the growth and independence of the modern orchestra, and also to the improvement in construction and resources of the organ itself, these grand old masters would no longer utilize the king of instruments in their scores, is surely unwarrantable. Allowing that there is a species of unconscious rivalry between the organ and the orchestra, there are times when the restless vivacity of the band, the conflicting emotions of many players, is welded into a grand harmonic coherence—if so we might express it—by the reposeful, if masterful, tones of the " monarch " when manipulated by a skilled performer. It depends upon the way in which such combination of forces is wrought; also much rests, as one would expect, with the gifts and temperaments of individual artists.

" Doctors Differ."—This brings us to a musical consideration which, to the outsider, may seem almost puerile. Musicians differ much among themselves in liking, or disliking, particular kinds and combinations of sound. Thus it is an eminent and distinguished writer and composer who speaks of the "dead" tone of the organ. Others criticise the "tinkling" tones of the pianoforte, and organists themselves are not the least sinners in this respect. The pianist, again, does not always patronise organ recitals, whilst both pianists and organists have been known to dislike violin solos, and nearly all instrumentalists hold the ballad-concert as little else than a couple of hours' boredom! Each to his *métier*, of course. But this want of tolerance of the several departments of others, this lack of sympathy of member with member in the great Body of Music, is sadly to be deprecated. It should be overcome by the sympathy and charity which beareth and endureth all things. Orchestral conductors are supposed to preserve an even mind and have no favourites among, or outside, the band. Yet each is found to have his predilections, and possibly will have them to the end. Allowing that tastes, in musical tone as in everything else, must differ, may we not nevertheless plead for that really broader appreciation of the amateur who, if the *music* itself appeals to him, enjoys it independently of the actual source of sound. There are some who, having nothing better, find the banjo and the melodeon sweet. Let those who have choice of the best make no mean distinctions, but agree with Shakespeare when he infers that we cannot have too much of a good thing.

Combinations "with Orchestra."—The matter of combining harp, pianoforte and organ with orchestra, albeit a debatable subject among musicians, has not perhaps yet had the attention it deserves. The " Pianoforte Concerto " (piano with orchestra) is keenly enjoyed by a large number, and as keenly deprecated by the rest. It is not surprising, therefore, to find that composers have been divided in their opinions on the subject of the concerto. Beethoven, who could so well have written one, avoided this combination of pianoforte with orchestra, whilst the pianoforte concertos of Mendelssohn and Schumann, as of many other moderns, are popular numbers on our orchestral programmes. We have mentioned the musical prejudices that exist less in protest than in order to arouse the great army of " listeners to music " to prick up their ears and look out for all sorts and conditions of combinations for themselves. They will then best be able to say, if occasion arises, whether the soft, liquid note of the harp, the silvery, upper octaves of the pianoforte, or the rich, full chords of the organ really offend when matched with the impetuous strings or the resonant brass. It is right, anyway, that they (the hearers of music) should get accustomed to listen for entries of all occasional orchestral visitors. If pianoforte and organ, being in themselves complete sound-sources, now and then match their forces with full-band (a combination of various voices which are not, by themselves, capable of harmonic effects), the results must be left to speak for themselves. One of the most exhilarating of musical *ensembles* is surely that which takes place at some great oratorio performance, when voices (solo and chorus) supplement band and organ in a mighty pæan of triumphant sound. Then indeed, if ever, does the sympathetic and unprejudiced listener realise the Power of Tone.

Orchestral Music "arranged" for Organ.—The matter of contrasting, and uniting, organ with orchestra leads to a still closer consideration of their respective qualities of tone. We have said, at the commencement of this chapter, that the organ is an orchestra in itself. The question now arises, How far can orchestral works be represented on the organ? Or, in other words, Are organ-stops of a flute, oboe and trumpet kind really good imitations of the instruments after which they are named? We must reply to such queries by making a few statements. In the first place, much depends upon individual organs, their construction and number of facilities, as to whether they can give a fair idea of a work scored, like the operatic overture, for full-band. The latest improvements in organ building, the various ingenious "actions," and the additional contrivances for changes in tone-colour, all bring the up-to-date organ nearer a condition in which all grades of tone-force, as well as all *timbres* of sound, can be played upon it. But then it is to be remembered that, whilst the organist has but one pair of hands and one pair of feet, the full-band contains thirty or more individual players similarly equipped, each responsible for one species of sound-source alone. A skilled organist can execute a reedy melody on the pedals, accompanied by arpeggios on a flute, or 4-foot stop on the Great, inner string or wood-wind harmonies being suggested by the left hand manipulating the softer diapasons, or "viol" stops of the Swell. Feats of all kinds are performed by the thumb of the right hand on one manual whilst the other fingers of the same hand play on the keyboard above. But, to the serious organist, these devices are rather tricks than displays of genuine skill. A fair notion of a score can be given on the organ by a cultured and accomplished musician, an exact copy of the orchestra being out of the question.

Idiosyncrasies of the Organ.—Also, in the matter of "imitation" of orchestral instruments, the organ claims, and must always claim, an idiosyncrasy of its own. The organ "flue" stop, or rather, row of pipes of a flute-like tone, deserves the name and resembles its orchestral namesake very closely; yet with a difference. It is just this difference that only flautists and organists can recognise. "Oboe" stops, in the same way, vary so much in timbre on various organs that, save for their reedy quality, they can never be mistaken for the orchestral oboe. The "violin" and "violone" diapasons similarly may suggest the strings, but they cannot be confused with them. In the same way the loud-voiced, 8-feet reeds which produce trumpet and trombone-tone, whilst they make noise enough and justify themselves at a full climax, are not likely to be mistaken by the initiated for what they represent. It is less a case of imitation than a reproduction of, sometimes even an improvement upon, the original sound-source. It is also to be remembered that the organ does not lend itself to shades of dynamic force *in touch* as does the pianoforte. Nor is expression possible upon it as under the bow of the violinist or the breath of the wind-instrument player. Again, lest we once more verge upon more technicalities than the reader would care to digest, let us say briefly: organ and orchestra are wholly independent of each other. They are both monarchs in their way; yet, like human monarchs, they can surely meet occasionally and enjoy friendly converse the one with the other. In this way, and in this alone, with no diminution of majesty on either side, can the band throw the glamour of its many individualities over the solitary grandeur of the organ; whilst the organ may serve as a welding force, especially when chorus supplements band, which can scarcely be beaten in the world of musical sounds.

CHAPTER XI

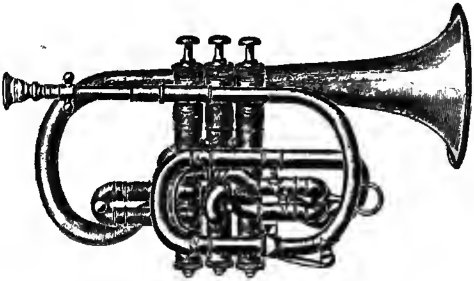
OCCASIONAL VISITORS

(THE CORNET, SAXHORNS, TRIANGLE, ETC.)

The Brass Band—The Cornet—The Saxhorn family—Brasses, past and future—"Toned" percussion—Indefinite-toned time-markers.

IN all great families there are times when visitors of various types are welcome, and the orchestral community is no exception to the rule. The older composers, it is true, were chary of admitting intruders of any kind. But the moderns are inclined to err on the side of extravagant inclusiveness, no sound-source, no matter how bizarre, being actually "banned" in the band. To enumerate all the gay or grotesque pieces of musical mechanism which, from time to time, have made themselves heard on concert platforms would be outside our province. The more serious and, at the same time, most useful instruments occasionally entering the regular orchestral group nevertheless demand a passing attention.

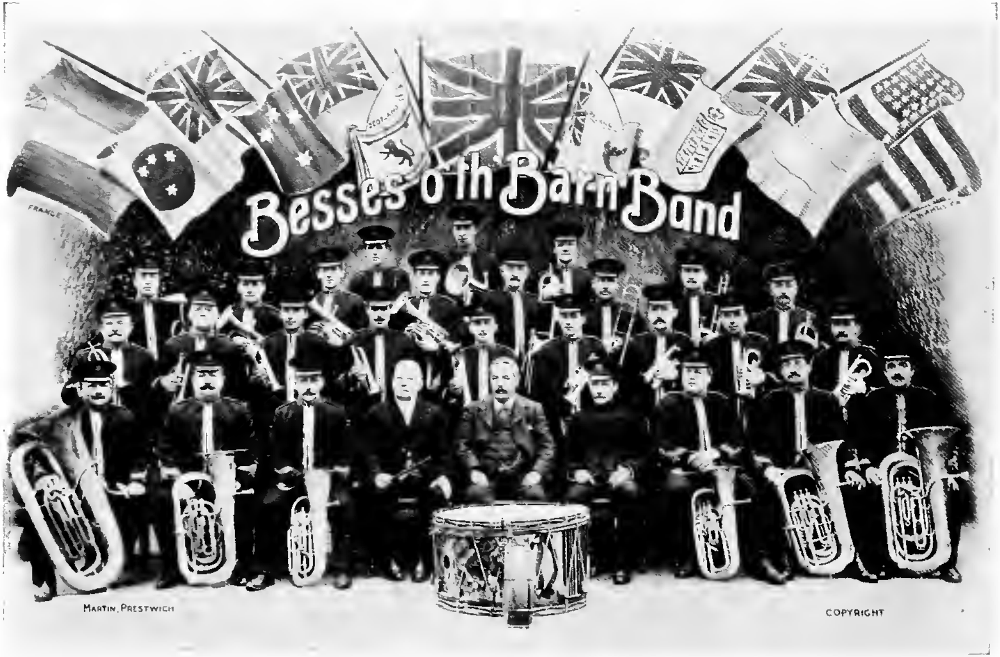
The Brass Band.—We will start with the components of what is popularly known as the Brass Band. This, in addition to trombones and drums —with which we have already made acquaintance —contains Cornets of several varieties, and the great Saxhorn fraternity. The latter includes the now frequently used orchestral Tuba, which is found in three sizes; named respectively, the Euphonium, the Bombardon and the Contrabass (or BB flat Bombardon). These are all important members of military as well as brass bands.



THE CORNET.

From Messrs. Boosey & Co.'s Catalogue.

The Cornet.—Very often we find the Cornet substituted for the trumpet in the ordinary concert band. Theorists, like the late Professor Prout, quoting M. Gevaert, emphasise that "No conductor worthy of the name of artist ought any longer to allow the cornet to be heard in place of the trumpet in a classical work." The reason of this reservation is that the tone of the cornet is declared to be "vulgar," as opposed to the "nobility" of the trumpet. The fact remains that the cornet is much easier to play than the trumpet, also that much more execution is possible on it than perhaps on any other brass instrument. It follows that a good cornet player is preferable to a trumpeter who can do nothing but blare, and that often out of time and tone-colour with the rest of the orchestra. Prout qualifies his statement about the cornet by adding that "unless in the hands of a very good musician" the deteriorating results are to be expected. Cornets heard, however, in so magnificent a combination as the famous "Besses o' th' Barn Band," tend to change one's opinion in regard to this much-maligned sound-source. It needs good playing, and a refined musical sense in the player. These requisites being present, though the grandeur of the trumpet may not be actually obtainable, a very fair substitute exists in the handier and more facile cornet for that great brazen voice which is an attribute of the Archangel.

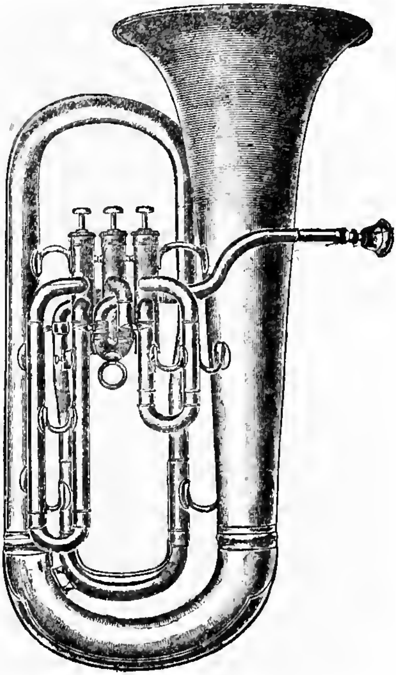


By permission of Mr. William Bogle.

BESSES O' TH' BARN BRASS BAND.

Cornets can play all kinds of melodies with ease and facility, and cornet solos are too well known as a feature of open-air music to need comment. There are several different kinds of cornets, that in B flat corresponding, in the brass band, to the violins in the orchestra and the clarinets in military music: in other words, the group of B flat cornets are the treble voices of the brass band proper. The "Ripieno" cornet and the "Flügelhorn" also belong to the cornet group, and are used for supplementing or filling-in of parts; but the reader need not be troubled with further details about them. French composers have been freer in their use of the cornet in orchestral music than the more conservative Germans; a notable instance of its introduction in a score being found in the Kermesse Chorus of Gounod's "Faust." The cornet is also used by Meyerbeer in his "Les Huguenots" and "L'Africaine."

The Saxhorn Family.—The numerous species of Saxhorns, used along with cornets in military and brass-band music, have been greatly developed in power and utility during recent years. They owe their name to M. Sax, the well-known instrument manufacturer of Paris. Saxhorns unite to form the harmonies of the cornet group, and there are six principal types: the Sopranino (or piccolo, in E flat, the Soprano in B flat (in Germany, Flügelhorn), the Alto in E flat (Althorn), the Tenor in B flat (generally know as Baritone), the Bass in B flat (Bass-tuba, or Euphonium), the Bass in E flat (Bombardon), and the Contrabass (BB flat Bombardon). Of these perhaps the Euphonium and the Bombardons (usually known in orchestral parlance as Tubas) are those most frequently heard outside their own province of military or brass-band music. The Euphonium, in particular, is well adapted to melodic and even florid passages, and, in the hands of a really good performer, it is capable of marvellous and charming effects in the tenor and bass registers, as well as occupying the place of the 'cello among the basses of the brass. The writer has a keen recollection of the extraordinary powers and excellent musicianship of Mr. Ernest P. Kerry, the chief euphonium player in the Besses o' th' Barn Band, to which reference has already been made. Players such as Mr. Kerry and his fellow artists have shown indubitably what can be done in the way of mellow and sonorous tone, as well as refinement of phrasing, with these gigantic sounding-tubes.



The Tuba, or Saxhorn.

From Messrs. Boosey & Co.'s Catalogue.

The Bombardon, or E flat Bass, figures largely in the military band; but it is also, together with the BB flat variety, growing more and more in favour with modern composers for sonorous and powerful bass effects in the lower limits of the orchestra. Thus Wagner used both bass and contrabass tubas in the well-known scene in "Das Rheingold," where the dwarf Alberich changes into a dragon. Lovers of "Der Ring" will be familiar with this notable passage. Wagner has indeed been criticised for his unwonted use of various kinds of tubas in the Nibelungen series. For his special effects, however, considering the number and variety of these modern brasses, he was surely justified in trying to obtain the peculiar colour he desired from any legitimate combination of them. These great saxhorns undoubtedly have a future before them, and it is safe to say that they will continue to be more and more used in orchestras yet to be.

Brasses, Past and Future.—In the score of Mendelssohn's beautiful "Midsummer Night's Dream" Overture (the wonderful work of a lad of seventeen) we meet with a now obsolete but rather extraordinary instrument, the Ophicleide. Mr. Corder, in his "Orchestra," calls it "a horribly blatant bass-instrument" . . . "a thing to shudder at!" It is really a bass bugle, and, together with the coarse-toned "Serpent," also long since out-of-date, it is only of interest to the antiquarian. The Tubas, just described, have practically banished these barbarians of sound from the concert platform. Other Sax instruments, of which we shall probably hear more in the future, the Saxophone and Sarrusophone, have as yet

THE ALTO SAXOPHONE.

From Prout's "Orchestra.'

their way to make into universal favour. In fact, the Brass Band may, so far, be only in its infancy in regard to the sound-resources which we may expect from it. All this does not necessarily imply loudness, and still less coarseness of tone. Much, in fact a vast deal, depends on the player, his breath-power and musicianly tastes. For richness of tone, exhilarating quality and carrying-power, it is difficult to beat the brass. Thus it forms an ideal open-air combination, whilst not by any means wholly unsuitable to an ample concert auditorium.

"Toned" Percussion.—Among instruments of the percussion class there are a good many occasional visitors, small and great, and the number of these seems ever on the increase in modern orchestral music. Under this class we might have included the already mentioned glockenspiel, bells of all kinds and the gong, save that a certain amount of definite tone is associated with these, the glockenspiel being in reality a little keyboard with glass or steel keys. The Triangle may also be grouped with these, as it gives a species of "ting" which, when not abused, is most effective in brightening climaxes or marking dance rhythms. A literally "striking" use of the triangle occurs in Wagner's Fire-music in "Siegfried" and "Die Walküre," where the suggestion is that one sees, or rather hears, sparks flying! Mr. Corder is of the opinion that Grieg overdoes the triangle colouring in Anitra's Dance from the well-known Peer Gynt suite. Discretion in its use—one single stroke in the middle of a whole movement, as in the case of Wagner's Overture to "Die Meistersingers"—gives that touch of colour which may be likened to a brilliant ray of sudden sunshine, or the high-light in a soft-toned picture.

Indefinite-toned Time-markers.—Other instruments of percussion now and then found in the orchestra are the big drum and the side (or military) drum, both used for the marking of climaxes or the obtaining of a peculiar effect. They may be described as "indefinite-toned time-markers." Thus the big, or Bass, drum is used in Haydn's "Military" symphony, and the side-drum appears with appropriateness in Auber's Overture to "Fra Diavolo."

We have now well-nigh exhausted the legitimate sound-sources, occasional or otherwise, utilised in the orchestra. Special effects, such as the mandoline part in the Serenade of Mozart's "Don Giovanni," the guitar accompaniment to the solo in Weber's "Oberon"—"O, why art thou sleeping, Sir Huon, the brave?"—and the famous lute passage in Wagner's "Meistersingers," are usually interpreted not on the instruments named, but with *pizzicato* strings; or, in the latter case, on the harp. Regarding such intruders as the whistle, the pop-gun or the postillion's whip—sometimes to be heard in military music—the reader needs no special introduction. Herr Richard Strauss has also brought many innovations of a curious kind into the realm of the percussion group; but with these we need scarcely occupy space. Should students aspire to write for the band, they are advised to bring in "occasional visitors" but rarely, and then only when their presence is warranted by some very special call for peculiar or unusual colour.

In the following chapter we shall very briefly try to distinguish between the various groupings of all the instruments named, accordingly as they constitute the orchestra proper, the "theatre," military and open-air bands. It is to be remembered, however, that, although a distinction may be easily made between these various *ensembles*, one not infrequently borrows from another. This we have seen to be notably the case as regards the introduction of cornets and tubas (brass-band instruments) into standard orchestral scores.

CHAPTER XII

DIFFERENCES BETWEEN "BANDS"

(FULL, THEATRE, MILITARY AND BRASS)

"Full-band"—The "Septet" (theatre) band—The Military band—The Brasses—The Strauss orchestra.

ALTHOUGH we have, in this little volume, pledged ourselves after a manner not to become technical, yet this and certain portions of the following chapters may be found more statistical than what precedes. There are many readers, however, we venture to hope, who, having kept company with us so far, will not refuse to bear a little repetition, more or less in tabular form, of what has already been administered in small doses, lest the taste should pall at what might be voted dull or dry. At all events, what succeeds may be found useful for reference; whilst its omission, even from a popular handbook, would make the writer's object incomplete—an attempt to help all Listeners how intelligently to understand everything that concerns the Orchestra (literally "dancing place") whereon Bands of all kinds are customarily heard.

"Full-Band."—By Full Orchestra is meant the sum-total of instruments used by classical masters in the composition of their symphonies and other instrumental movements. With the continual admission of new or exceptional sound-sources, the term "full" has, naturally, a wide meaning. Thus, in the days of Haydn and Mozart, the full-band consisted of first and second violins, violas, 'cellos and double-basses in the string contingent, with the addition of flutes, oboes, clarinets and bassoons (two of each) in the "wood" department, horns and trumpets forming the "brass," together with the *timpani* (or kettle-drums), and occasionally the trombones (three in number—alto, tenor and bass). Modern composers, and notably Wagner, have, as we have already seen, added tubas, side-drums, and so forth. Again, whereas J. S. Bach wrote for the Oboe da Caccia, its modern form (the alto oboe, or Cor Anglais) has not been used by Beethoven, Schubert, Weber, or Mendelssohn. Haydn and Mozart employ it occasionally, whilst Meyerbeer, Rossini (Overture to "William Tell"), Berlioz, and many moderns have availed themselves of its somewhat melancholy tone with charming effect. The alto clarinet, or Corno di Bassetto, used so ably by Mozart in "The Magic Flute" and elsewhere, is now practically unknown in the modern orchestra, if we except the military Alto in E flat. Wagner's use of the Bass Clarinet, and the occasional appearance of the Double Bassoon in the works of foremost composers, render it necessary for the serious student to be able to recognise these instruments when he sees or hears them; though to write for them to any extent puts difficulty in the way of a public performance.

The "Septet" (Theatre) Band.—Coming to what is called the "Theatre" Band, we gather our first notion of what is familiarly known as a "scratch" combination—a make-up of the best of what can be obtained at a minimum of cost. Whereas the tendency of modern orchestras is to multiply parts—stringed as well as wind parts—the theatrical conductor is often faced with the problem of making one instrument play as many rôles as possible. Thus the ordinary "Septet," as this combination is usually named, consists of first violin, second violin, double-bass, clarinet, cornet and drums, the conductor generally supplementing by playing another first (leading) violin. A moment's thought will show the intelligent reader that *inner* harmonies are badly wanted in such a grouping. So, when a few other instruments become possible, 'cellos and violas are very desirable. Yet experience has shown that much can be done with these limited resources, and most musicians agree that they are better than the combination of pianoforte and strings. In the hands of a clever arranger, wonders can be worked with this little band, and it is frequently to be met with in country places and small towns on the principle that "half a loaf is better than no bread." For all this, often a piano or small harmonium *does* figure in the theatre orchestra, even when the band proper is fuller than that described. It always gives one the idea that the conductor is not sure of any of his players, and thus he keeps the ready keyboard instrument under his fingers to fill in gaps when necessary! Of course, additions of all kinds are frequent when necessity arises or finances make extra help possible. In short, the Theatre Band depends upon convenience and the expenditure available; unless, of course, in the case of well-organised travelling opera companies, such as the Carl

Rosa for instance, which carries its own instrumentalists.

The Military Band.—The Military Band next demands our attention. The growth of open-air music, in parks, on piers, and at all public functions, has been enormous within the past twenty years, and it seems ever on the increase. With the fife-and-drum band or the bagpipe corps the reader will scarcely need closer familiarity, though many good people by no means despise these exhilarating sounds. The former is a feature of village life; whilst the pipes, on the field, boast many records of having inspirited troops on the march or encouraged them in the direst straits of a ruthless combat. The British Army, however, has a certain definite combination with which those who love really good military music need acquaintance. The following is a list of the forces of tone required: Flutes, Oboes, E flat and B flat as well as Alto Clarinets, Bassoons, Horns, Trumpets, Cornets, Trombones, Baritones, Euphoniums, Bombardons and Drums. Occasionally, though not so frequently in Great Britain as elsewhere, there are added Saxophones, Bass Clarinets and Sarrusophones. We could ill dispense with our splendid military bands; such as, for instance, that of the Coldstream Guards (conductor: Dr. Lieut. J. Mackenzie Rogan, R.A.M., etc.).

It will be gathered that, from this combination, good arrangements of ordinary orchestral scores are eminently practicable. In this case, the violins are represented by the clarinets, whilst orchestral clarinet parts are played on the cornets. Tenor and bass instruments in the concert band are replaced, in the military combination, by Saxhorns, including the so-called baritones, the euphonium and the bombardons. Sometimes an occasional double-bass is found in a regimental band, and always to the advantage of the band. Oboes, bassoons, horns, trumpets and trombones, it will be observed, find their place similarly in both kinds of band. Regarding those coming powers of the brass, Saxophones and Sarrusophones, although the former are much favoured in the United States and Canada and the latter (double-reeded, like oboe and bassoon) may be heard in France, as yet military bands in these countries have scarcely grasped their importance and possibilities. Their respective inventors, MM. Sax and Sarrus, have endeavoured to obtain through them a homogeneity of tone not always

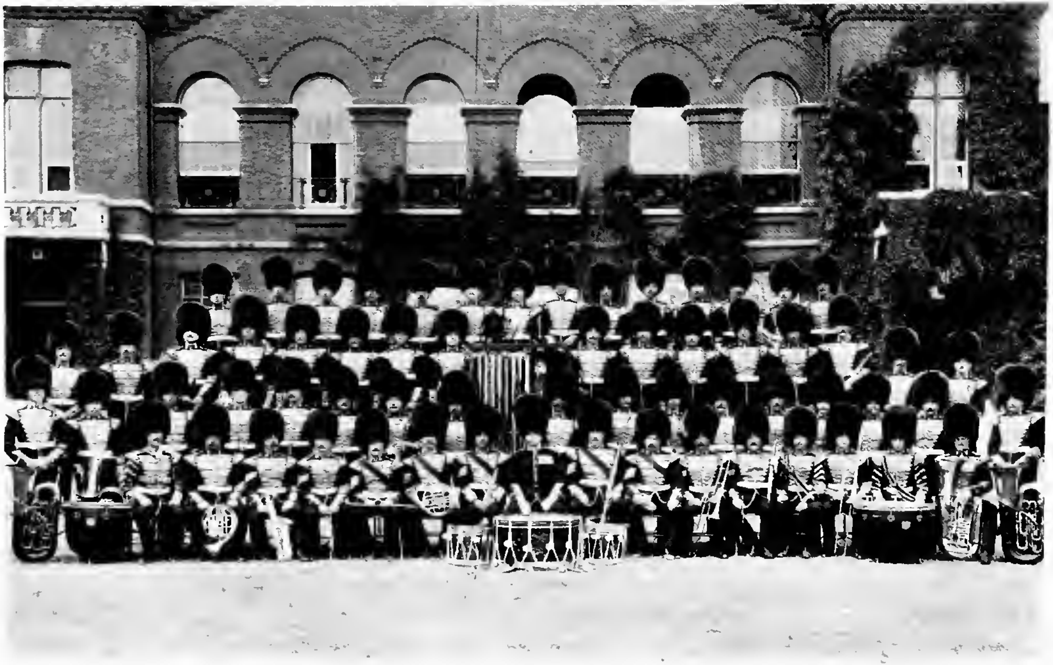


Photo by J. Russell & Sons, Windsor.

THE COLDSTREAM GUARDS' BAND.
(Conductor: Dr. Lieut. J. Mackenzie Rogan, R.A.M., etc.)

available in a more hybrid combination. But, so far, we are not very familiar with them on this side of the Channel and the Atlantic, though there are signs that saxophones are daily growing in favour, for several of our foremost military bands possess a couple or a quartet of them.

The Brasses.—The Brass Band we have already enumerated. Its growing popularity owes much to North Country players, who have succeeded in extracting the "cream" from the brass. We have mentioned the famous Besses 'o th' Barn Band, of Lancashire origin and world-wide achievement. It is an encouraging sign of the development of musical taste among the people that now nearly every great factory and working-men's organization has its own brass band. The increase in numbers of such musical fraternities, and the frequent public competitions which have been organised to incite them to the practice that makes perfect, have raised the art of brass-band playing to a high standard. It is no longer a case of blast and blare, nor always of rag-time and march-metre. Selections from Wagner, as well as the most conservative of classical masters, early and modern, may now be heard on the brass, and that with excellent effect. Among the brasses, cornets supply the parts filled by violins in the concert orchestra, just as clarinets occupy a similar place in the military band. We have already referred to the suitability for tenor and bass solo work of the euphonium. The trombone also comes in for its share of melodic passages among the brass proper. Drums, both in military and brass bands, are usually of the bass and side-drum variety—*i.e.* they are rhythm-markers and climax-makers particularly, and are not responsible for a definite tone.

The Strauss Orchestra.—In concluding our estimate of the differences between various band-forces of the day, the constitution of the orchestra, as requisitioned lately by the London performance of Strauss's "Salome," may interest our readers who have had patience with us so far. The total of this great combination numbered 112 players in all, and these were distributed as follows: 16 1st violins, 16 2nd violins, 12 violas, 10 'cellos, 8 double-basses, 3 flutes, 1 piccolo, 2 oboes, 1 cor anglais, 1 heckelphone (a species of baritone oboe, specially unearthed by Strauss), 2 clarinets in B flat, 2 clarinets in A, 1 bass clarinet in B flat, 3 bassoons, 1 double bassoon, 6 horns, 4 trumpets, 4 trombones, 1 bass tuba, 4 kettle-drums, 1 small kettle-drum, bass-drum and side-drums, tam-tam (a drum type of Hindoo origin), cymbals, triangle, tambourine, xylophone (an ancient instrument of the glockenspiel kind revived by Saint-Saëns), glockenspiel, castanets, celesta (a species of harmonicon), organ, harmonium and 2 harps. Illimitable, truly, are the sources of orchestral combination !

We pass now from the instruments themselves to the music written for them. As full information on this branch of our topic may be found in any text-book on Musical Forms, we shall discuss it in the simplest and briefest manner. Some knowledge of the nature of " form " in musical composition is, nevertheless, necessary to those who would intelligently follow and fully enjoy an orchestral performance.

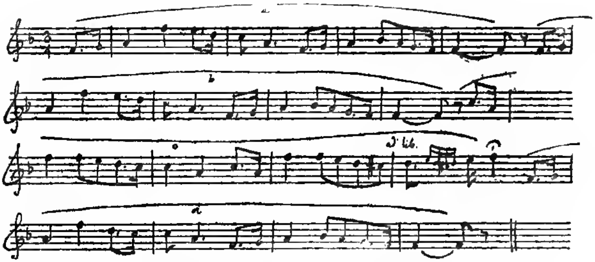
CHAPTER XIII

MUSIC FOR THE ORCHESTRA

A simple song—Sonata-form—"Development" work—The Symphony—Other symphonic forms—Miscellaneous forms — Initial study — Score-reading — Analytical programmes.

AT the basis of all good instrumental music lies what is known as Sonata-form, and this again has had its origin in the construction of the folk-song, or people's music. To illustrate this very simply, suppose we take one of the best-known popular melodies, "The Last Rose of Summer." Springing from earlier folk-music of Gaelic origin, and long popular in the south of Ireland under the various titles of "Ned of the Hill," "The Groves of Blarney," and "The Young Man's Dream," this highly symmetric tune attracted the notice of the German composer Flotow, and was embodied in his opera "Marta." This work, produced in Vienna in 1847, owes its chief charm to the incorporation in it of the version of these Gaelic airs which the poet Moore had arranged to his words "'Tis the Last Rose of Summer." It was reserved for that incomparable singer, Adelina Patti, to render this simple but touching melody with a beauty and fervour which touches all hearts.

THE LAST ROSE OF SUMMER



AIR IN "SONATA-FORM" IN EMBRYO

(*a*) First phrase, or "principal theme"; (*b*) Repetition; (*c*) Middle phrase (development period); (*d*) Concluding phrase (Repetition of "a").

A Simple Song.—Let us examine the construction of "The Last Rose of Summer," to find, if possible, on what its symmetry and charm are founded. It consists of sixteen bars in all, divided into four distinct phrases of four bars each. The first two groups of four bars are practically identical, the second being a repetition of the first. The third four-bar phrase introduces some new melodic matter, with a rise in pitch. It might be described as a development of the original theme of the first pair of four-bar phrases. A cadenza passage and pause lead to the last phrase of four bars; this almost a literal repetition of the opening four-bar phrase. The tune seems simple even to monotony; yet the effect of the whole is, at one and the same time, homogeneous and varied.

What, then, have we to record in the way of construction? There is, first, an initial phrase, or melodic theme, which is repeated. Then we have the introduction of new, or apparently new, matter—a species of "middle" portion, or phrase. Finally, there comes the closing repetition of the first, or original theme.

Sonata-form.—Now, what do we find as the underlying constructive law of the opening Allegro in, say, Beethoven's immortal sonatas? There is a "principal theme," or phrase, of greater or less length, often containing, within itself, the elemental forms of the folk-song described. This is followed by a second theme, or "subject," generally in the key of the fifth (Dominant) or other nearly related key, leading to a close at the double bar, marked with the repeat signs. Here then, we have, in extended form, the first four bars (repeated) of the people's tune. Then follows what theorists call the "middle phrase," or development portion, in which the first two subjects are treated thematically with all the skill that the composer can devise. This middle phrase may extend to a hundred or more bars; but, nevertheless, it is little more than an amplification of the middle four bars of the folk-melody, in which there was a rise in pitch and a slight variety of theme. Then comes the concluding portion of the movement—a repetition of the first section—the second subject (announced in key of dominant or other nearly related key) being now in key of tonic, or the key in which the piece starts and closes. Once more we call to mind the final four-bar repetition in the air "The Last Rose of Summer," and realise that the whole tune is a case of *multum in parvo*—the trinity in unity of so-called "sonata-form," which is at the basis of all classical composition.

"Development" Work.—"Development," or the working-out and extension of musical themes, is at the foundation of all good music. The first, *Allegro*, movement of most sonatas displays this device to its fullest extent. The second movement of a sonata is generally of a slower, graver kind; it is also much shorter than the initial movement. This *Andante*, or *Adagio*, as the case may be, has, nearly always, its one or two principal themes, its second subject, and its "repetition" (closing) phrases. So, also, with the final Allegro, or Presto, which is often in what is called "Rondo-form." Beethoven's "Sonata Pathétique" may be examined to illustrate what has been said, it being noted that the opening Allegro is prefaced by an Introduction, marked *Grave*, by way of prelude—a not unusual device.

Beethoven, in his "third" period, and many modern composers, have greatly changed and extended the simple triune rules upon which sonata-form is based; but a trace of the three great divisions of Statement, Development and Repetition are seldom absent from the best examples. Of course, themes can be subdivided, amplified and varied in a bewildering number of ways; and to effect these transformations of bare material is just what constitutes the genius of the gifted composer. Folk-song might, then, be looked upon as the germ of the larger complete work; and, as the pinnacle of achievement on these lines, there stands the great Orchestral Symphony.

The Symphony.—The Symphony is, in reality, a Sonata for orchestra. It contains three or more movements, alternately fast and slow, after the manner of the pianoforte sonata. Each of these movements, again, is constructed, thematically, in the fashion we have described, save that, instead of being written for one instrument alone, they are scored for full-band. Notable instances of the Orchestral Symphony are Beethoven's immortal Nine, of which, perhaps, the Pastoral, "Eroica" and the Choral symphonies are the best known. They should be heard, and, if possible, studied in full score, by every earnest orchestral student. Schubert, Schumann, Brahms, and, in our own days, Elgar, have emulated the great master of symphonies, and have written noble chains of movements for full band, based on sonata-form. The Queen's Hall Orchestra (under Sir Henry Wood), the London Symphony Orchestra and the Philharmonic Society, to name but three famous metropolitan organizations which give symphony performances, continually render works of this calibre in the most approved style. Readers are recommended to take early opportunity of hearing one or all of these celebrated orchestras, and thus learn to appreciate the orchestral symphony for themselves.

Other Symphonic Forms.—Other orchestral forms, more or less offshoots of the symphony or of one or more of its separate movements, are the Concerto, the Concert Overture, and (for string-band only) the Stringed Quartet. The latter is a sonata for two violins, viola and 'cello; and to this class belong the string-trio, and the pianoforte trio and quartet (which unites the pianoforte with two or three members of the string-band). All the great German composers have tried to embody their best and most refined thought in the string-quartet, which can be heard at any chamber concert. Overtures are of different kinds. The most classical form may be described as a symphony in embryo, Scarlatti's overtures being of this kind, whilst Handel generally embodied the instrumental form known as "Fugue," of which we shall speak presently. "Opera" overtures are of all species of development. Sometimes they are made up of snatches of the chief airs to follow, more or less loosely

After a Drawing by De Carmontelle. *Engraved by Delafosse, 1764.*

Leopold Mozart with his Children
(Wolfgang Amadeus, 7 ; and Marianne, 11 years of age)

strung together. A nobler form of operatic overture may be found in that to Mozart's "Magic Flute." Famous concert overtures, which every student of orchestration should hear, are Beethoven's "Coriolan," "Egmont" and "Leonora" overtures, and Mendelssohn's striking tone-pictures, the overtures to "Hebrides," "A Midsummer Night's Dream," "Fair Melusina," and "Calm Sea and Prosperous Voyage." The Concerto, the most important form after the Symphony, is practically a symphony for one solo instrument and orchestra. Usually in three movements, it is so constructed that it gives display to a good virtuoso performer, whilst not sacrificing genuine orchestral passages and climaxes. The Concertos of Mendelssohn and Schumann (for piano and orchestra) are especially notable, and the form is a popular one both with conductors and listeners.

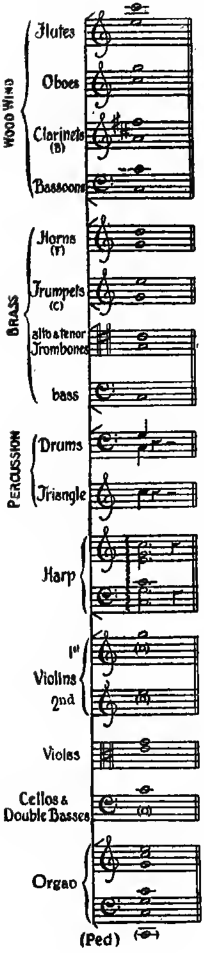
Miscellaneous Forms.—Shorter orchestral movements include the Theme with variations, the March, the Suite (originating in a series of old dance-forms), and the modern Tone-Poem, of which Saint-Saëns is so notable an exponent. Separate dance-movements of all kinds may be heard at orchestral concerts, from the old minuet and gavotte to the latter-day waltz and polka. Spanish and Hungarian native dances have been much in favour with musicians as forms whereon to base a sprightly picture, and most young composers of all countries try their hands at these dainty and attractive trifles. Incidental music, to dramas, etc., is also a frequent feature of the orchestral concert. "Arrangements" of all kinds exist, too, in bewildering varieties. The modern craving for "programme" music has, moreover, given rise to a multitude of descriptive instrumental pieces whose titles explain themselves. There is, then, no dearth of material from which the listener can gather a good practical knowledge of various masses of orchestral tone. Tschaikowsky, the brilliant Russian composer, has done much to develop the resources of the modern orchestra in his works. Attendance at a season of the London Promenade Concerts will do much to familiarize the student with the best efforts of modern composers of up-to-date instrumental music, selections from the works of Elgar, Strauss and Debussy representing the latest developments in this line of musical output.

Initial Study.—It may be asked, How can one best prepare for, so as thoroughly to enjoy, an orchestral performance? A slight acquaintance with "form," as indicated in this chapter, seems the first step towards an intelligent understanding of the music rendered. Prout's great work on "Form" may be prefaced by the smaller, and very handy primer of Pauer, "Musical Forms" (published in the Novello primer series). In the matter of orchestration we may hope that this present little volume will, in homely phrase, supply a long-felt want. If a student wishes to go further and learn actual compasses and capabilities of the various orchestral instruments, he has the fine treatises of Berlioz, Prout and Corder. Some facility in harmony and counterpoint, learnt from any of the numerous text-books published upon those subjects, will not come in amiss, and a closer knowledge of "Fugue"-form is especially commendable. The famous preludes and fugues of J. S. Bach—those for the organ, and the Forty-Eight for Well Tempered Clavier—may be, in the words of Schumann, looked upon as the earnest student's "daily bread." Fugues, usually voted dry, just need a little careful study to disclose the fact that they are full of interest from start to close. The principal and second subject (or rather, "answer") of the fugue coquet with each other, fly from each other, and are finally blended with each other by all the innumerable devices to be found in Counterpoint, the latter having been happily defined as "the art of combining melodies." To love a fugue, one must learn to *play* one. The charm then increases as years go on, and what was once voted dry and dull becomes instinct with life and inner meaning.

Score-reading.—Initial study before an orchestral performance might also include full-score reading. It is quite possible nowadays to procure full-scores of all important works at a very moderate price. Donajowski's "miniature" scores are issued yearly in ever-multiplying numbers, as well as the larger-sized scores of the houses of Litolff, Peters, Breitkopf & Härtel (of Leipzig), and others. In starting score study, the student is recommended to get a fair notion of the string-band, or "quartet," first of all. Then the eye may try to unite with the strings the entry of the wood-wind. Afterwards the brass, and, then, instruments of percussion will be found to fall into their positions under the gaze, the facility growing with practice of taking in "with eye and ear" more than one bar at a time. Some people make better score-readers than others, just as some sight-read better

COMMON CHORD OF "C" SCORED FOR ORDINARY ORCHESTRA;

Showing how a Full Score is usually laid out.



The Piccolo, or treble flute, when required, is written on a separate stave above the ordinary Flutes.

The *Cor Anglais,* when used, occupies a stave below Oboes.

N.B.—The B Clarinet transposes down a whole tone. The Bass Clarinet is placed on stave below Clarinets.

The Double-bassoon comes in beneath ordinary Bassoons.

N.B.—F Horn transposes down a 5th. Four Horns are now more used in orchestras than in the Haydn-Mozart band, which was content with two.

Cornets (usually in B flat) are sometimes substituted for Trumpets.

Where space permits, alto and tenor Trombones are written on separate staves, with their respective clefs.

This notation refers to Kettle-drums, which are capable of being tuned. The ordinary drum only requires a single line to mark its beats.

Under or above Triangle may come any other similar percussion instrument required.

Two or more Harps are sometimes written for with separate parts for each.

Violins are often divided, or else they may have double notes written for them. Wagner and most modern composers have largely utilized the possibilities of divided strings.

N.B.—The Alto clef for the Tenor Violin.

Sometimes the 'Cellos have a separate stave from the Double-basses. Generally the Basses play an octave beneath the 'cellos.

The Organ, when space permits, is best written for in three staves, to allow for independent pedal part.

than others, or have more talent for "looking ahead" generally and being prepared for what follows. The faculty of score-reading just needs cultivation and concentration; the latter, in particular, if any good progress at the art is to be expected. Some musicians recommend the taking of a score with one to a performance, and looking on at the music while the band plays. Another plan is home-study; the noting of important entries, and the memorizing and watching out for these at the actual rendering. Readers must themselves choose what plan suits them best. They might try both the visual and remembrance methods at intervals until perfect facility in hearing and distinguishing tone-colour accurately is attained.

Analytical Programmes.—Most important orchestral concerts have an annotated programme, or "analytical" text, as the case may be. The concert-room itself is scarcely the best place to study these highly instructive and generally well-written analyses of the works performed. It seems a pity that the fashion is not customary to have them printed well in advance of a performance. For the ten or twelve who purchase them thus in advance, perhaps one or two will go to the trouble of reading them carefully through and particularly memorizing effects that may be specially noteworthy. In any case the expedient might be more general than it is. The lights and bustle of an auditorium, the chatter of friends and acquaintances, and the interruptions from which none are ever quite exempt, render the concert-hall the last place in the world wherein one can grasp from letterpress what the composer intends us to learn, mark and inwardly digest. At first an analytical programme, from its inevitable technicalities, may repel the casual listener. With familiarity and repeated hearings of the same band, he may look upon it as his best friend. A course of Beethoven's symphonies may, we fancy, be considered the best initial training for the embryo orchestral student.

CHAPTER XIV

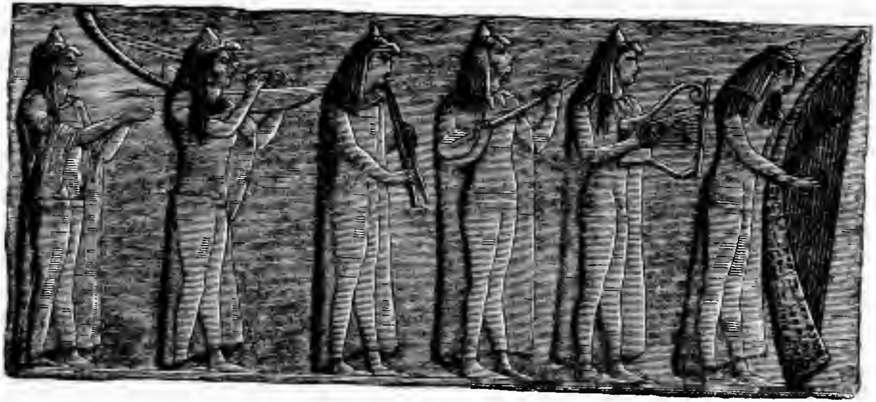
BRIEF SKETCH OF ORCHESTRA FROM PRIMITIVE TIMES

Egypt's monumental records—The band of the Orient—The "bowed" strings of Arabia—Hebrew music—The Grecian lyre and Roman flute—A development period — Nuremburg town band — The Dresden "model" orchestra of 1750—What the future may see.

THE playing of two or more instruments together, or in concert, dates, probably, from the invention of the shepherd's reeden pipe. Already the birds, in their morning songs to the Creator, had voiced a united pæan of exultation which man could not fail to copy. If Jubal, the antediluvian, was the father of all such as handle the harp and organ (the progenitors of stretched string and sounding-tube), one infers that, early in the history of the world, players were to be found who might combine their powers for the delectation of themselves or listeners. Possibly the most interesting, as well as the most remote nations of antiquity were the old Egyptians and the forefathers of the Chinese race. At the risk of repeating some previous references, it is, therefore, to ancient Egypt and China that we must turn for the first indication of the Band.

Egypt's Monumental Records.—On monumental Egyptian remains we have, inscribed with still marvellous distinctness, the records of past art achievement. Among those which bear the engravement of musical instruments, two species of sound-source are pre-eminent. These are the harp and flute. The harp exists in various forms. There is a small-sized, angular harp, which is little else than the bent bow with three or more strings attached. Then, again, there is the large priestly harp of elegant shape and many strings. Both kinds of harp are unique in that they want the fore-arm or pillar (see Chapter IX., p. 133). It remained for the Keltic genius to add this necessary aid to maintaining the tension of the strings. Music seems, from sculptured remains, to have been much used in religious services, a curious fact being that women as well as men took part in such musical ritual. Even children or youths may sometimes be found depicted in the act of beating time—a duty falling, in modern days, to the most skilled and experienced of musicians. The double-flute is often seen on Egyptian tombs, whilst groups of flute-players appear to have figured at festivals as well as funerals. Also we frequently see types of the Egyptian lute, or *nefer* (long-necked and three-stringed). The *Nay*, or old Egyptian flute-à-bec, is still played by the fellahs of the Nile-country. Mr. Chappell, in his "History," describes the household band of one Tebhen, an Egyptian noble. So this curious and highly interesting people must have been advanced in musical (instrumental) performances, as they were in so many other arts of the present day. The trumpet and drum were also known to them; but, as a rule, instruments with a soft quality of musical tone seem to have held more favour with them than loud-voiced sound producers.

The Band of the Orient.—Among the Chinese, however, from remote antiquity, various kinds of drums, or clanging and sounding instruments of the percussion family, have been highly in vogue. The reader is referred to Naumann's "History of Music" for graphic descriptions and illustrations of these. Here we need only name the "King," the

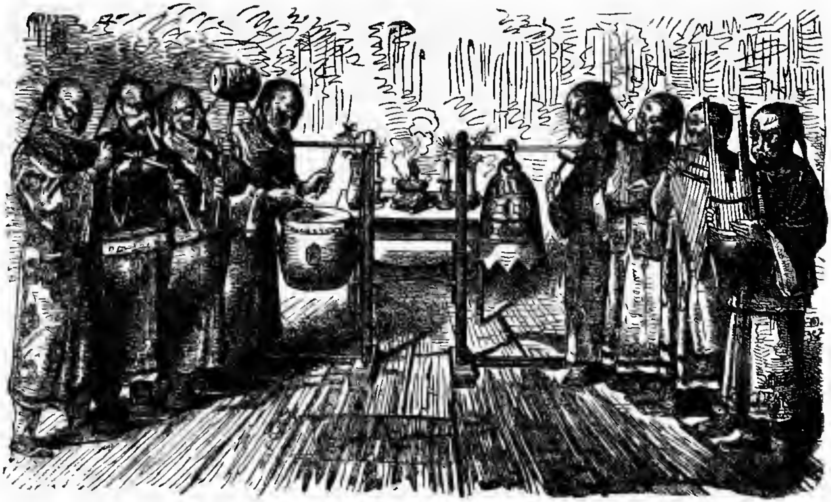


Egyptian Performers of Funeral Music

(From a Tomb at Thebes).

Hiuen-kou (or giant-drum), the Ya-kou (a small variety of drum), the Gong (or tam-tam), and the Cheng to show the nature of instruments used both separately and in concert by the Oriental. Turning to Hindustani, we find that stringed instruments, such as the Vina and the Magoudi (or Hindu guitar), seem best to suit the poetic temperament of the native. It is not our province here to enter upon the tonal and other scale peculiarities of these Eastern nations. Suffice it to say that they differ very considerably from our own, and are sometimes of a very complex character; witness the thirty-six keys in Indian music.

The "Bowed" Strings of Arabia.—Coming to Arabia, fair types of popular (as well as ancient) musical instruments may be seen in the Rebab (the prototype of viol and violin in these countries) and the Kemengeh (a very curious instrument of the guitar type). Both these stringed instruments are played with a bow, a strident sound being appreciated by Islamites, as has been mentioned in Chapter III. The lute and tambourine are favourite instruments of the household, whereas the rebab and kemengeh are mainly to be found in the cafés. It is now generally acknowledged that,



Chinese Orchestra in the Tay-mio.

through Moorish contact with Spain, we have obtained our bowed-stringed instruments from Arabia. The old English rebeck[1] is, apparently, the Mussulman's rebab, the infinite variety and confusion in names of early bowed (stringed) instruments calling for a brief notice presently.

Hebrew Music.—Among nations of antiquity, the Hebrews, Greeks and Romans deserve special attention in regard to the instruments of music which they respectively favoured. As was stated in Chapter VI., Josephus speaks of 200,000 trumpets being in the Temple; he also mentions 40,000 harps and psalteries of pure copper as being ordered by the king for use in sacred ritual—truly an astounding and, perhaps, exaggerated total! We read, moreover, in the Old Testament of bands of singers and instrumentalists being formed both by Kings David and Solomon, David's gifts as a harpist being well known. The Psalms, it is assumed, were accompanied by such instruments as the harp, the psaltery, trumpets, schofars (still used in the modern synagogue), drums and occasionally flutes. The antiphonal construction of the Psalms suggests that singers, and perhaps also instrumentalists, were divided into groups

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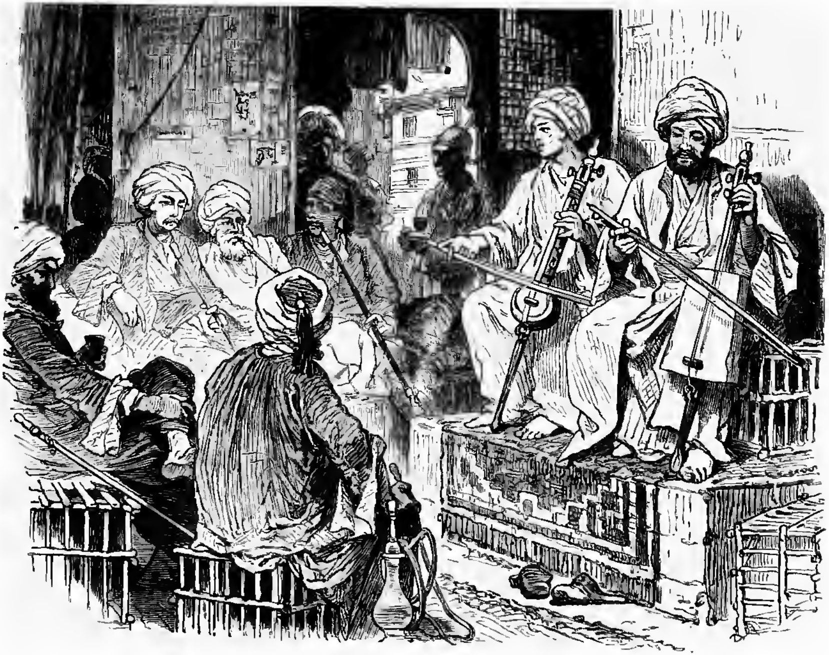
[1] Same as Provençal rebeb or rebek, chap. iii., p. 40.



Music in a Café at Cairo.

(*Kemengeh* on left; *rebab* on right.)

who sang and played antiphonally, or "answered" one another in song—as became the habit later of the early Christian worshippers. The Psaltery, it would appear, was made of a square frame of sandal-wood, often richly inlaid, to which ten strings were attached. If we add the timbrels of Miriam and the cymbals, in this ancient Jewish orchestra we see all the elements (stringed instruments, wood and percussion) of modern times.

The Grecian Lyre and Roman Flute.—The Greeks, without doubt, borrowed much of their musical knowledge from the ancient Egyptians, just as the Romans, in their turn, adopted the culture of the Greeks. Instead, however, of favouring the many-stringed harp of Egypt, the Lyre, based on the nefer, appears most frequently on Grecian monumental remains.[1] The lyre, as the Arabian lute, was assumed to relieve pain and sorrow when under the fingers of a skilled player. We see here the old belief in the curative power of musical sound—a sedative for the mind, a panacea for ills of the body. As well as the lyre, the flute (single and double) may be seen in the hands of sculptured figures on the frieze of the Parthenon and elsewhere. The cithara seems to have been an instrument of more substantial build than the lyre, lyres being of many shapes and often elaborate and beautiful in design. We have noted that, whereas the Arabs were fond of the bow, the Greeks invariably used the fingers in eliciting sounds from their stringed instruments. Though Pythagoras and Euclid both made music the subject of scientific theorizing, it does not appear that Harmony was practised by the Greeks, the lyre being rather used to aid the modulations of the voice in oratory or song. The Romans, and especially the early Etruscans, favoured the double-flute. There are also to be mentioned the military instruments of the Romans, the Tuba (trumpet) and Buccina (a kind of curved horn). Under the Roman Empire music became sadly degraded, and was looked upon as merely the sport of slaves and libertines. This may account for the fact that St. Jerome declared that a Christian maid should not know the sound of a flute. A somewhat similar reaction against instrumental music took place in mediæval times, when, after the excesses of the Stuart dynasty, the Puritan following banned instrumental music from their religious worship.

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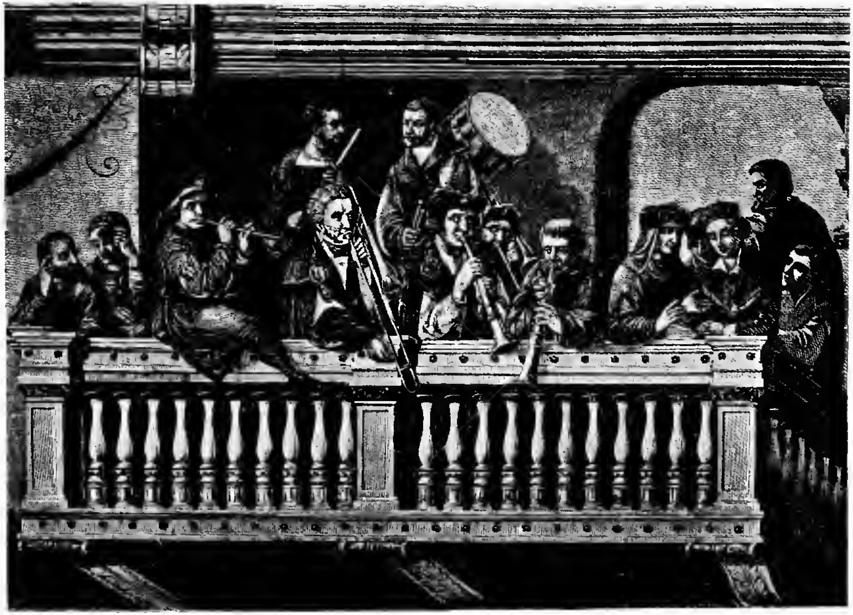
[1] See illustration of Apollo Musagetes, p. 39.

A Development Period.—We must now pass in very rapid review over the early centuries of the Christian era, noting the gradual introduction of

Roman Performers on the Tuba and Buccina.

From Trajan's Pillar, Rome.

the organ into the service of the Church, and the development of stringed instruments of all kinds, notably the viols, eventually to be merged into the stringed band of modern times. A curious old bas-relief on the church of St. George, Boscherville (Normandy), gives a representation of an orchestra of the eleventh century. Therein we see players on Rotas, or Crottas, of different kinds, psalteries, harps and bells, besides a strange wind instrument and some species of drum or tambour. Coming to the period of the troubadours and minnesingers, we find all the various forms of the Arabian rebab known in diverse districts as the Rebek, the Gigue and the Vielle, as well as the Rota and Crotta, or Crout (see Chapter III., p. 40). Connoisseurs have drawn minute distinctions between them; but with these we will not trouble the reader. They figure in all kinds of serious and fantastic forms on sculpture and paintings of the Middle Ages. The famous Horn of Roland (fourteenth century) may be mentioned as a predecessor of the "melancholy" French horn of the modern orchestra. A rather extraordinary instrument of those old days was the Trumscheit, a kind of monochord of large size played with a horsehair bow. Very interesting delineations of old German wind instruments are given in the "Syntagma Musicum" of Michael Praetorius (1619). Among these are pipes of all kinds, straight



From a mural-painting by Albrecht Dürer in the Town Hall, Nuremberg.

THE NUREMBERG TOWN BAND.

and curved, the predecessors of the oboe, bassoon and cornet, whilst bagpipes of eccentric types are also to be found in the illustrations. Gradually we see the viols developing from the earlier crude forms. It is not necessary to repeat what has already been said regarding the development of the violin family. Before the stringed orchestra, as we know it, came into existence, the term "chest of viols" was used to describe the band of strings.

Nuremberg Town Band.—Along with stringed instruments, the wood and brass varieties were also making slow but sure progress. Already we have noted how the field and the chase were sources from which the orchestra got its trumpets, drums and horns. Albrecht Dürer, the celebrated artist of the Reformation period, has left an interesting mural painting in the Nuremberg Town Hall of the Town Band of that quaint old German city. Therein we see the slide trombone and drum, together with flutes and various other species of wind instrument, the forerunners of the modern wood and brass. From famous paintings, indeed, spread over all the great Continental galleries, we can gather the history of instrumental music, and the gradual development of the various kinds of orchestral sound-sources. The stories, respectively, of piano and organ—how the former developed from clavichord and harpsichord, and the latter transformed its heavy touch into the light pneumatic key-action of the present day—are fascinating recitals; but we may not enter upon them here. The lute and guitar played a secondary, if not quite negligible part in the music of mediæval Europe; but of these also we can make but this passing mention.

The Dresden "Model" Orchestra of 1750.—In order to draw comparisons between the Wagnerian and Straussian orchestras of to-day and those of Germany about one hundred and fifty years ago, it may be interesting to conclude with the enumeration which Naumann, in his "History of Music," gives of the Electoral Orchestra of Dresden in 1750. It consisted of 8 1st and 7 2nd violins, 4 violas, 3 'cellos, 3 double-basses, 2 flutes, 5 oboes, 5 bassoons, 2 horns, sometimes 2 or more trumpets, and 2 pairs of kettle-drums. This enumeration Naumann quotes from Rousseau, who considered Dresden a model for all other orchestras. It would seem that two harpsichords also found their place in this pattern band. This was before the general use of the conductor's baton, as introduced by the composer Spohr. The absence of clarinets and trombones will be noted, also the larger number of double-reeded instruments (the oboes and bassoons). This combination of the eighteenth century may well be compared with that which served Strauss in his London performance of "Salome" (see p. 172).

What the Future may See.—To what proportions the Orchestra of the future will reach, none can say. There will always be found composers who favour smaller or larger masses of tone, as the case may be. Also, the individual instruments themselves are ever, in their construction, going on to perfection. In the Piano we see the natural evolution of the Harp. Upon what constructive principle the harp of the celestials will be built, we may not speculate beyond our romantic musings of Chapter IX., save in remarking that the angel playing a *violin* in Saraceno's famous picture of St. Francis (see p. 42) somewhat departs from the Biblical notion of the hand-harp! It is possible, as we ourselves progress through the cycles, music will progress with us. It may be also that the art will individualize; even as human beings, if they attain to any great excellence, must learn to stand alone and be self-supporting. At the back of all comes the gradual awakening of the powers of each separate human mind; an entity, yet ever a unity with the Great Mind that rules the universe. So, in a world to come, the principles of the stretched string and sounding pipe—the harps and trumpets of the To-Be—will doubtless continue to be responsible for solo and concerted work, and yet they will represent, more than ever, *individual* effort and advancement along the lines of Infinite Progress.

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